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VISITOR'S GUIDE  HISTORY
OF THE
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PHILADELPHIA, PA.

Elaborately Illustrating each Department, the Business Routine,
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PUBLISHED BY
A. M. SMITH, NUMISMATIST,
PHILADELPHIA, PA.

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VISITOR'S GUIDE

—TO THE—

PHILADELPHIA U. S. MINT.

The special object of this volume is implied in its title.

The author has for years furnished a work of somewhat similar character ; in the light of past experience and observation he has entirely re-written the book with a view to giving visitors, first, full information as to the operations they witness and the departments into which they are introduced ; next, a detailed account of all matters directly connected with this institution and the money of the United States, and finally a general summary of the world's coinage.

The first portion is so brief, that it can be read while watching the routine, manipulation and machinery by which the various metals are converted into bright coin, yet so comprehensive, and so graphically illustrated, that one who never visits the city or Mint may become fully acquainted with its workings, the whole being a great aid to the visitor, a pleasant reminder ever after, and most interesting, instructive reading at all times. The general information is not only valuable, but entertaining, care having been taken to avoid all technicalities, tabulated figures, statistics, financial essays, extracts from official documents, and other dry-as-dust book-making material, valueless to the general public and changing every twelve months, or more frequently.

Visitors to the Mint desire A GUIDE, bright, intelligent, clear, and interesting,—as such, this work is presented, and, the publisher believes, entirely fulfils its mission.

Respectfully,

Philadelphia, Pa.

A. M. S.



DIRECTOR OF THE MINT

JAMES PUTNAM KIMBALL, PH. D.

The title "Director of the Mint," inadequately indicates either the importance or the varied and responsible functions of that office. The officer bearing this modest designation is the Director of all the establishments having any connection with United States coinage, ten different institutions being under his charge and jurisdiction, instead of a single mint, as literally implied by the statutory title.

The Bureau of the Mint of the Treasury Department of the United States, at Washington, D. C., is the general executive division of the mint establishments of the nation, including also the several U. S. Assay Offices. Four mints, of the five existing, are now equipped for coinage. Of these, three are in active operation, the Mint at Carson City, Nevada, being at present closed; while the institution at Denver which has never yet been prepared to coin money, is conducted as an Assay Office.

The Mint at Philadelphia, prior to the Coinage Act of 1873, was styled the U. S. Mint, and was under personal supervision of the Director. The others, at New Orleans, La.; Charlotte, N. C.; Dahlonega, Ga.; San Francisco, Cal.; and Carson City, Nev., were all called Branch Mints of the United States. Assay Offices were established in New York, 1854; Denver, Col., 1864; Boise City, Idaho, 1872; Helena, Montana, 1874; St. Louis, Mo., 1881. The Mint at Charlotte, N. C. coined money from 1836 until closed by the Civil War. Its minting equipment being then removed has never been replaced and its business has since been that of an Assay Office. From 1838 to 1861, coins were struck at the Dahlonega establishment, and in 1871 the property passed out of the hands of the government.

The Coinage Act of 1873, established the Bureau of the Mint as a division of the Treasury Department. It also placed the Mint at Philadelphia, Pa., under the immediate supervision of a *Superintendent*, as in the case of all the other mints.

The functions of the Bureau of the Mint are fully prescribed by the Revised Statutes, and further indicated by special provisions of subsequent appropriation acts, such, for instance, as relate to the collection of statistics of the production of the precious metals of the United States.

The officer at the head of these widely scattered establishments, Dr. James Putnam Kimball, was one of the appointments made by President

JAMES PUTNAM KIMBALL.

Cleveland which called forth heartiest endorsement from those who best knew the man, who were fittest able to judge of his peculiar adaptability for the high position, and who most fully understood the nature of his duties. He received his call to the post late in June, 1885. In its issue of July 4th, *The Engineering and Mining Journal* of New York, that high authority, says:

"It has rarely happened that the government has made an appointment so generally satisfactory, and there is no doubt Dr. Kimball's work will justify the general congratulations that his appointment has brought to the government."

A biographical sketch of the officer referred to necessarily calls for some mention of his ancestry. Inquiry develops such remarkable and noteworthy incidents in connection with the Kimball blood, so long and honorably identified with our land and nation that regret must be expressed at the brevity with which space requires they shall be stated.

On the tenth day of April, 1634 (old style) Richard Kimball (Kemball), then aged 39 years, with several members of his family, embarked at Ipswich, County of Suffolk, England, in the ship ELIZABETH. William Andrews, Master; and sailed for America and New England, landing at Ipswich, Massachusetts. The young man who was to found a family of freemen, first settled at Watertown, on the borders of Cambridge, and in Dr. Bond's map of that town, his homestead is noted as a tract of six acres.

In Robert S. Rantoul's "Memoir of James Kimball," Essex Institute, Salem, Mass., in "The Joseph Kimball Family," by John Kimball, A.M., Concord, N. H., 1885, and in the history of the early days of our country many interesting and quaint reminiscences of this ancestry, paternal and maternal are recorded.

Dr. Kimball's great grandfather, William Russell, was found to be a true American, when came the times for noble action. As a "Son of Liberty" he took part in the first overt act of the Revolution, in the destruction of the cargo of tea in Boston Harbor. When hostilities broke out he fought the British and Hessians on sea and land. As Adjutant of the Massachusetts Artillery he participated in the Rhode Island campaign of 1777-78. Afterwards, while secretary to Commander John Manley on the U. S. war vessel, JASON he was captured by the enemy's frigate SURPRISE, and suffered the horrors of Mill Prison until June 24th, 1782, when liberated through exchange. His journal written during those terrible days, has been published by his grandson, and from it we learn that while in durance, he still fought on the side of liberty and enlightenment, by establishing a school and teaching his fellow-prisoners. A few days after his release he was again on the water fighting for the right. Again he was captured and tortured once more in the infamous prison-ship JERSEY.

Hon. James Kimball, father of the subject of this sketch was a prominent and most honored citizen, of Salem, Mass. Up to within a short time previous to his death, in 1883, he was presiding member of the Board of County Commissioners, having been continuously elected to that responsible office for

JAMES PUTNAM KIMBALL.

some twenty years. He served several terms in the legislature of Massachusetts, and as alderman of his native city. During the civil war, when politics and feelings ran high, he occupied the post of Chairman of the Essex County Republican Committee. In the Masonic fraternity also he was conspicuous and wore the honors of its highest grade. His historical and antiquarian papers prepared for the Essex Institute, and which exhibit research and ability, are greatly prized and very valuable.

JAMES PUTNAM KIMBALL, the present Director of the Mint, born at Salem, Mass., April 26, 1836, is the only son of the late James Kimball. His education after completing the curriculum at the High School of his native city was advanced by attendance successively at Harvard, the University of Friedrich Wilhelm, Berlin; George Augusta University, Göttingen, and the School of Mines at Freiberg, in Saxony. From his Göttingen ALMA MATER, in 1857, he received the degree of A. M., *Artium Magister*; and PH. D., *Philosophia Doctor*. He returned from Europe in 1859, and was soon after engaged upon the Geological Survey of the states of Wisconsin and Illinois, under leadership of that able geologist, Prof. J. D. Whitney, now of Harvard University.

When about twenty-three years of age, in 1860, Dr. Kimball accepted the chair of Chemistry and Economic Geology in the then recently established New York State Agricultural College at Ovid, since merged in Cornell University. Here he was engaged when the civil war broke out. The president of the college, Gen. Marsena R. Patrick, a graduate of the Military Academy at West Point, and a veteran of the Mexican and Florida campaigns, took the field as Brigadier General of United States Volunteers, and in April, 1861, Dr. Kimball, commissioned by President Lincoln Assistant Adjutant General U. S. Volunteers, with the rank of Captain, became his Chief of Staff.

Continuously, first in the Army of The Rappahannock under General McDowell, then in the Armies operating against Richmond, Captain Kimball discharged the duties assigned to him, actively participating in the battles of South Mountain, Antietam, Fredericksburg, Groveton, Manassas, Chantilly, Chancellorsville, Gettysburg, and in many minor engagements. After the battle of Antietam, General Patrick, having been appointed Provost-Marshal-General of the Armies operating against Richmond, this officer along with his own staff became part of the General Staff of the Army of the Potomac. Capt. Kimball thus served on the staff, successively, of

JAMES PUTNAM KIMBALL.

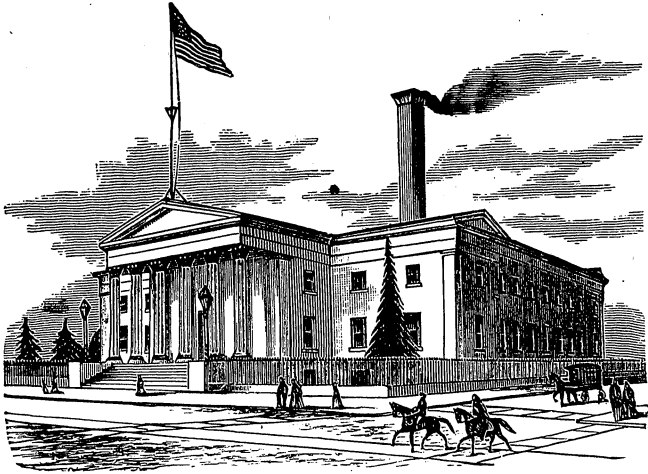
Generals McClellan, Burnside, Hooker and Meade, until that army, in December, 1862, went into winter quarters, when the state of his health, much impaired by camp life, obliged him to resign. In 1863 he received the Brevet of Major.

Dr. Kimball then established himself in the city of New York, and entered upon the practice of his profession as a geologist and mining engineer, quickly acquiring a valuable connection and an increasing clientage. He has been forced into conspicuous notice as one particularly identified with the development of the mineral resources of the United States, professional duties and commissions having called him to most of the mining regions of the Union and beyond its borders, into Canada, Mexico and the West Indies.

In 1873, Dr. Kimball married. It is rather singular that his wife's great grandfather, Colonel Michael Farley, of Ipswich, was, along with her husband's forefather, also one of the thirty brave Sons of Liberty who formed the Boston Tea Party on the 16th of December, 1773.

Dr. Kimball accepted the honorary chair of Geology in the Lehigh University at Bethlehem, Penna., in 1873. There he has continuously made his home, retaining however, his business and professional connections in New York city, his reputation in such relations being fully equal to his high social position. His name stands upon the rolls of the Century, Union and other clubs of that city where he is as well known as in Pennsylvania, of which state he is a citizen. At the time of his governmental appointment, he was operating as President of the Everett Iron Company, one of the most extensive blast furnaces in Pennsylvania. He is a well-known writer and acknowledged authority on scientific and technical subjects, many papers from his pen having been published by the scientific journals, and in the proceedings of learned societies, both in his native land and Europe.

As Director of the Mint, Dr. Kimball is an eminent illustration of the right man in his proper place.



VISITOR'S GUIDE TO THE U. S. MINT.

Philadelphia has always been the home of the "Parent" Mint of the United States, the first money-coining institution of our government having been established here in 1792.

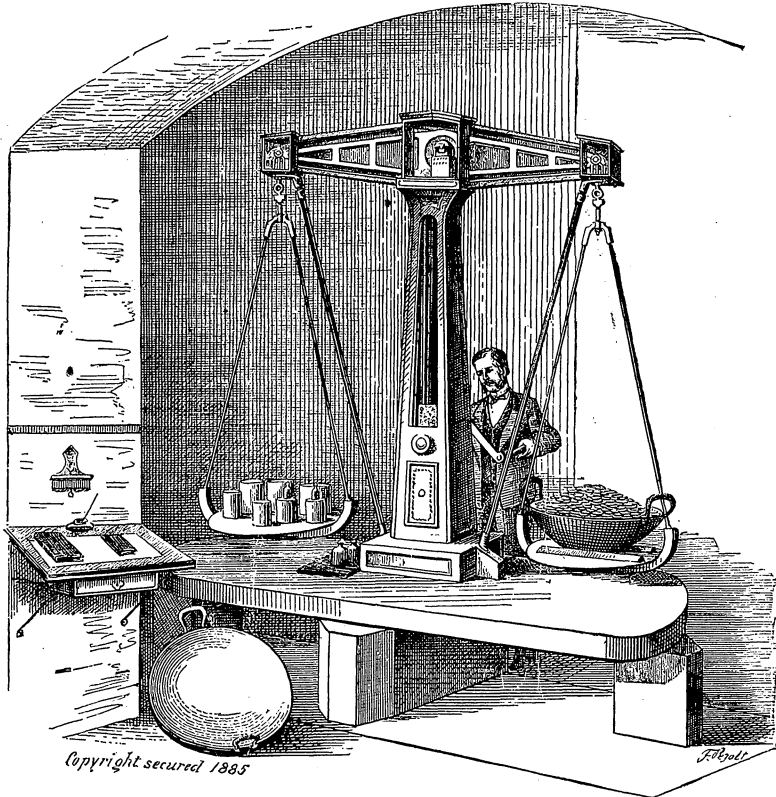
The Mint of to-day stands on the N. W. Corner of Chestnut and Juniper Streets. As visitors, we mount the many steps of the marble building and, passing through the doorway, halt in a small rotunda vestibule, with seats against its walls, and, standing there, look, in front, directly along a passage or hall way, on the right, into the Cashier's office, and on the left into the Warrent and Clerk's Department.

An Usher, with gentlemanly courtesy advances, and learning that our visit is one of observation immediately starts with us on a tour of the building, conducting us into every portion where it is proper or practicable to admit strangers. As we pass down the hallway directly facing the entrance, we gain sight, through a doorway on the right hand side into the

GENERAL WEIGHING ROOM

where the immense but perfectly exact scales represented in the cut weigh the bullion at the time it is received and again test the exacti-

tude of all gold and silver coin before delivery. We notice with admiration the ponderous but beautifully graceful balances, which



GENERAL WEIGHING ROOM.

never shirk work or give a false report. This splendid Balance is probably the largest and finest in the world ; the beam, of bronze, six feet in length, rests upon an iron column about five feet high ; its extreme capacity is 10,000 troy ounces,—about 685 pounds, but such is its sensibility, that even when thus loaded, it exhibits a variation at the one-hundredth part of an ounce ; there is no feature of more conspicuous importance to the proper transaction of business in the entire building. It was made by Mr. HENRY TROEMNER, of PHILADELPHIA, who, for the last quarter of a century has manufactured all the fine scales used by the government for the weighing of precious metals. Now, and treading quickly on the footsteps of our guide, we enter

THE YARD

or square court. Rising about five feet from the pavement, against the surrounding buildings, are cages formed of heavy latticed wire

work, within which are piled, tier upon tier of metal blocks, roughly squared, irregular in size, each stamped with its weight, and looking too dull to be silver, too bright to be lead;—but silver they are, and it is in this shape the bullion is received from the Assay offices. Each “pig” weighs from the 85 to 140 pounds and an average of over two tons a day is melted and coined. A small building on the right was formerly an Office for counting and redemption of copper coins, it is now the quarters of Adam's Express Co. in their connection with U. S. coin transportation.

Turning to the left, through the windows, we gain a view of

THE DEPOSIT WEIGHING ROOM

with great scales, strong of pillar and beam, and many large, heavy brass weights. Here all the precious metals are again weighed and the pounds, ounces and grains of each block exactly determined. There can be no mistake with these scales, they are the perfection of precision, the largest will weigh from six thousand ounces to the one-hundredth part of an ounce, the next in size accommodates three thousand ounces at one balancing, and the smallest of all will serve three hundred at a time. The weights are graded from five hundred ounces to five grains, troy, which is sufficiently exact at this stage of the process.

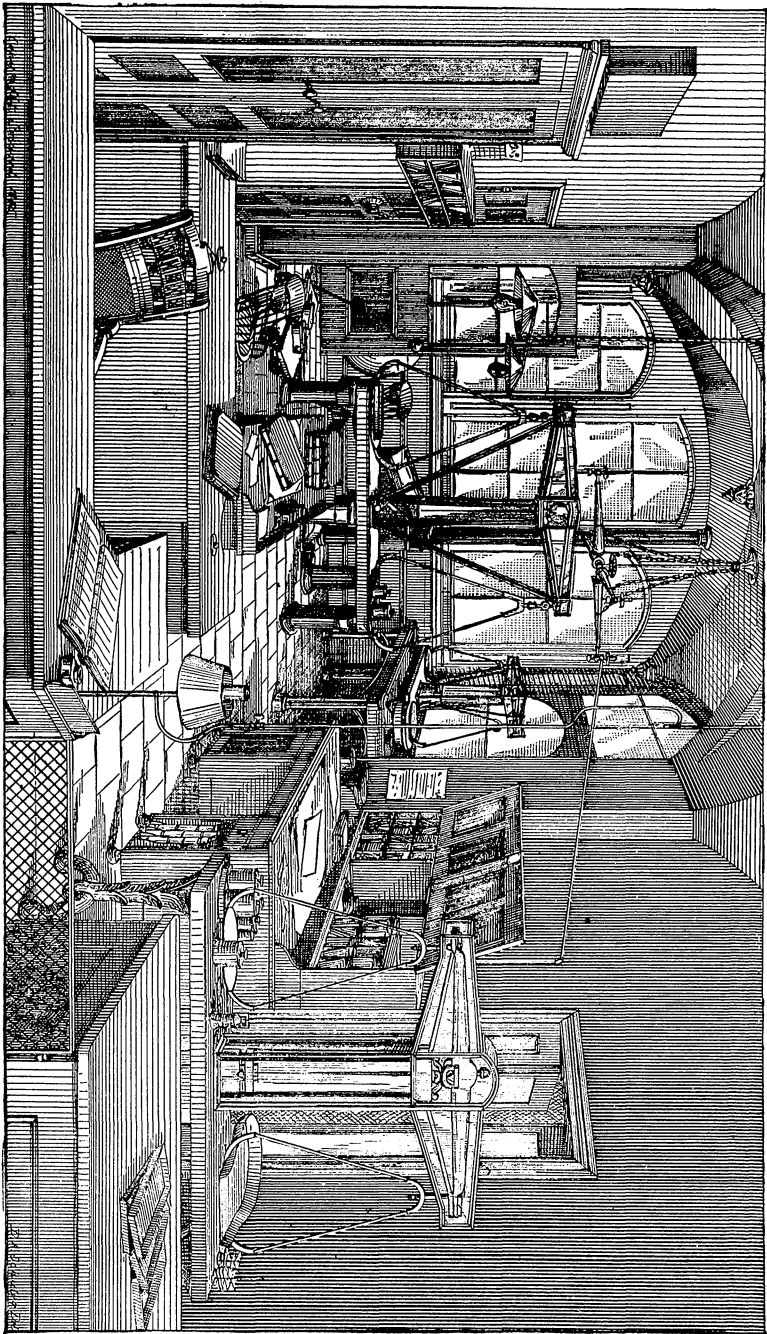
The system of weighing and recording which begins in this room is carried out with every transfer of the metal until it is delivered, as coin, to the Cashier, and the slightest discrepancy or deficiency, not accounted for by loss through manipulation is at once detected and located.

On the right of this room is a vault, where, piled from floor to roof, row in front of row, behind a wire screen, are hundreds of small yellow “bricks,”—gold! Crowded into that small end of the small vault there is in sight from thirty to thirty-five million dollars worth of gold. Twelve of these treasure vaults are in the building, strong as solid masonry, double iron doors, metal linings, and the most thief-thwarting locks can make them.

STANDARD WEIGHTS.

Troy weight, standard of Great Britain, only is used at this Mint. To trace back the system of weights and measures, the mode of ascertaining the standard and all matters connected therewith is a most interesting study, impossible to give briefly and too extended for these pages.

Cut No. 1, presents exactly, in size and design, the *Exchequer Standard Troy Pound*, made a bell-metal, under orders from Queen Elizabeth. There is no single pound Troy weight of this series, that amount being determined by the 8 oz. and 4 oz. here pictured. In-



THE DEPOSIT WEIGHING ROOM.

side the four ounce cup smaller weights fit, down to 1 oz. and larger cups receive the 8 oz., until 256 ozs. are reached. The set from which this engraving is taken is yet in fine condition, and until 1824 they



STANDARD ONE POUND TROY TEST WEIGHT.

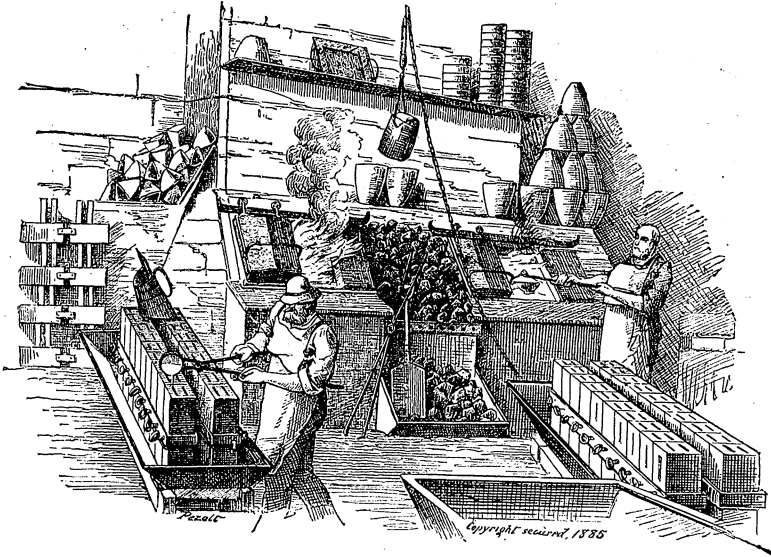
were used to regulate all the weights in the Kingdom. In that year the "Imperial Standards" were substituted, the brass Troy pound of 1758 being declared the only "original and genuine standard; cut No. 2, is a fac simile, in size and every particular of this "parent" pound Troy, now in the Standards Office, London, and it is a duplicate of this, in bronze, which is used in the U. S. Mint of Philadelphia, to gauge all the official troy weights of the government.

A warm reception is given us in

THE DEPOSIT MELTING ROOM,

to which the gold goes first after leaving the weighers, in iron boxes, each with two locks. Here four furnaces are glowing with fierce flames in the midst of which are crucibles of plumbago, black-lead pots, in which the precious metal is being reduced to a state of pouring fluidity. These crucibles are placed in the furnaces empty, on a stand, which rests upon the grate, and which is filled with common coke-dust to guard against adhesion of the pot to the stand, the fires are lighted and the crucibles gradually heated in order to prevent cracking which might happen if intense flame was at once applied. The metal is introduced while the crucibles are in the furnace, also

borax and other "fluxing" materials, a "muffle" of baked clay is then put over each pot, and this again topped with a flat cover made of black lead, with which protection the fire can entirely surround the vessel, and the heat being thus equally distributed, renders the melting uniform, thus insuring a thorough mixture, a most important matter. When sufficiently fluid the contents of each crucible is cast into a bar, which is numbered and a small piece cut from it goes to



ROOMS FOR MELTING AND REFINING.

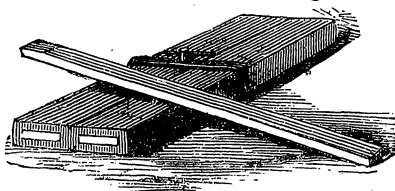
the Assay Department and there, from the sample, is ascertained the proportion of pure metal in the deposit.

Following the regular course we next enter the

ROOMS FOR MELTING AND REFINING.

There are two of these, for silver and gold respectively. The necessary amount of alloy for each lot of either is regulated at the office of this department and sufficient added to bring the bullion up to U. S. Standard for coin, and also to secure the hardness, above that of native metal, necessary for the durability of pieces in circulation. The melting operations are similar to those described, the metal being placed in the crucibles after these have been thoroughly tested in the fire, the large blocks of silver are lowered by means of a crane, chain and hooks. When a proper stage of liquefaction is reached sufficient of the glowing metal is ladled out to fill a crucible, grasped by red hot tongs and from it is poured into moulds whence it emerges as "ingots," small bars, about a foot in length, half an inch in thickness, and regulated in width from one to two-and-a-half inches, ac-

ording to the size of the coin into which they are to be manufactured. They are not unlike large railroad spikes, one end being \triangleright shaped to permit of its first introduction between the rollers. Here are cast also the bars of gold and silver which are bought for fine art and com-



INGOT AND MOULDS.

mercial use, the weight and value of each being stamped upon it in the deposit room. The gold ingots vary in value from about five hundred dollars to nearly three times that amount.

In the melting room for gold and in many other departments the floors are overlaid with hexagon, latticed iron plates, through which fall the small particles of gold that adhere to the shoes of the operatives, or are otherwise detached, the sweeping of the floors are carefully preserved, properly treated to obtain the gold therein and over twenty thousand dollars worth of the precious metal is thus saved annually. The towels, gloves, and water used in cleansing are also made to yield up the yellow grains they have accumulated and these increase the "Savings" account by a very considerable aggregate. On the same side of the building and adjoining these rooms are the seven melting furnaces where copper, nickle and other base metals are passed through the fire, the process is so nearly identical with that described for gold and silver as to require no special mention.

As we move on through the corridor to the next department we pause to look down, through a window, into a large vault-like room in which is

THE FAMOUS MINT ENGINE

which supplies much of the motive power for the heavy machinery of the establishment; it is a ponderous, beautiful triumph of mechanical art, of 160 horse-power, almost noiseless in its working and possessing peculiarities of construction which render it unlike any other; it has steadily done its work for over forty years and is still "good as new."

THE ROLLING ROOM,

is next entered, and our illustration gives a very clear idea of the entire operation. These rollers can be adjusted to produce any thickness of "ribbon," and the ingots are passed between the steel surfaces at the rate of 200 an hour, in the process of "breaking down," until they become the proper sized strips from which to cut the "planchets"

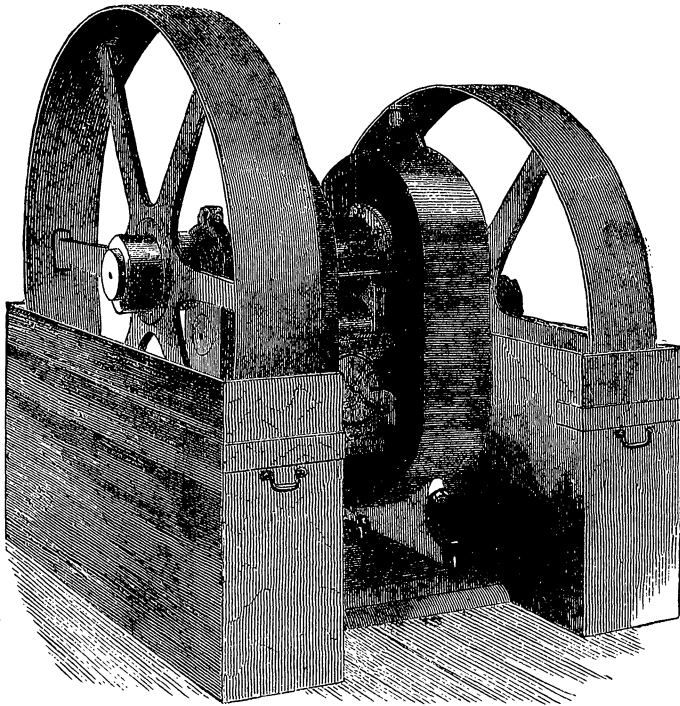
that are to receive impressions and become coins. Ten times the gold is passed through the rollers, seven times the silver, and the twelve inch ingot that began, at the last measures six times that length. The immense pressure necessary heats the large rollers intensely, as well as the metal strips which have to be several times annealed in the furnaces, during the process, to prevent brittleness and breaking.



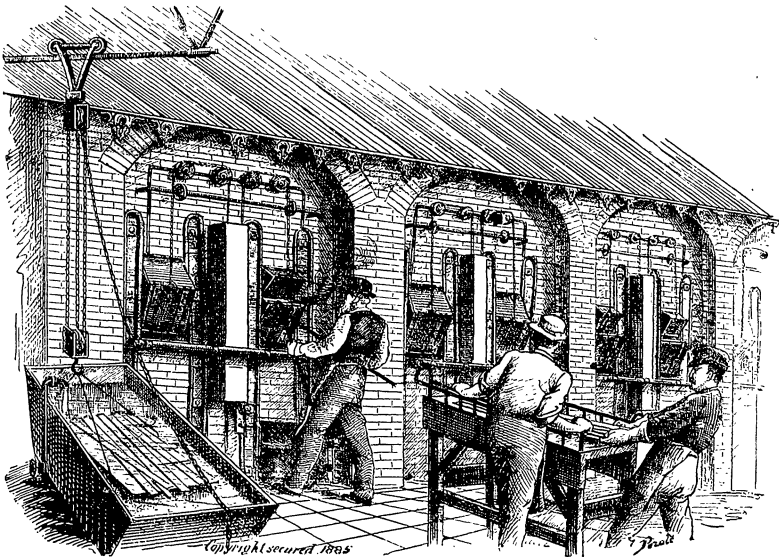
ROLLING MACHINE AS SEEN BY THE PUBLIC.

THE ANNEALING PROCESS.

To soften the elongated ingots, they are, at this stage, once more subjected to the action of fire in the ANNEALING FURNACES. To guard against any loss of gold, from abrasion or other cause, the strips are placed in a copper case before being placed in the furnace, the silver strips, backed up to the door of the heated chamber on a bench resting on a high, wheeled truck, are put in without any protective covering. Then the heavy port-holes or doors of the furnaces are shut, by massive weights, raised or lowered by chains running over grooved wheels; and the metals are subjected to heat from burning oak wood, which alone is used here; until a certain red heat is reached, the exact temperature of which is not known, the experienced eye of the operator detecting the proper moment for removal. The bars, when withdrawn, are by chain and crane deposited into a wire basket and lowered into a tank through which constantly flows a stream of clear water, where they remain until cool, and when taken out are sufficiently soft for all further manipulation. The cut on next page faithfully represents the interior of this department,—one workman looks into the furnace to see if the strips are sufficiently



COMPLETE ROLLING MACHINE.



THE ANNEALING FURNACES.

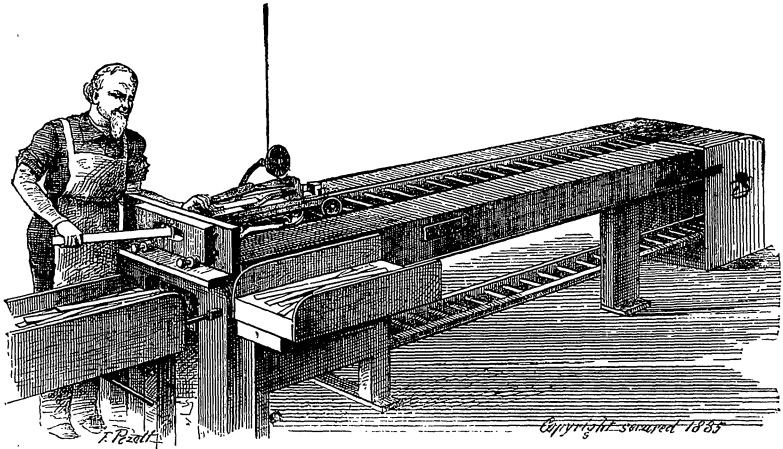
annealed, two others are rolling the bench with a new charge of silver bars, and on the left is the bath in which silver strips are cooling.

The time required in annealing the silver strips is about twenty minutes; the average amount of metal placed in a furnace as a charge is three hundred pounds, and from fifteen to twenty charges a day are put through each furnace in operation.

It sometimes happens that lumps of hard metal are found in the strips, rendering the surface uneven; planchets cut from such portion would be too heavy and to correct this the strips go to

THE DRAWING BENCHES,

a table with a noisy endless chain, running from right to left, and a little carriage with pincer attachment which grips securely one end of the strip showing edgewise between two perpendicular cylinders of steel in an iron box or bed, secured to one end of the bench. These



THE DRAWING BENCH.

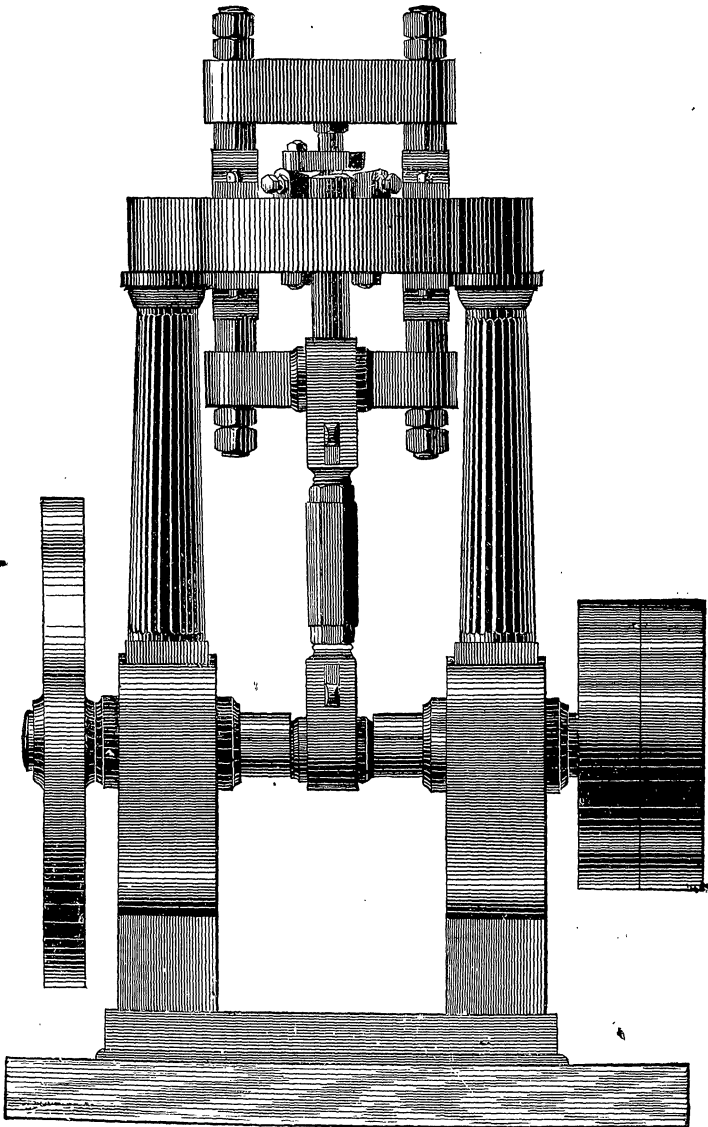
are "set" at exactly the distance apart which it is desired to have the strip in thickness; the attendant touches a foot-pedal; the pincers nip the strip; another touch, and a hook attaches the carriage to the chain and away it goes to the other end, dragging the strip after it, leaving every irregularity behind and coming through exactly perfect. The moment the cylinders release the metal ribbon, it is dropped by the pincers, and the carriage rolls back to its starting point to be again fed.

Then the strips are well washed and passed over to

THE CUTTING PRESSES,

of which there are six, in the same room, behind the rollers.

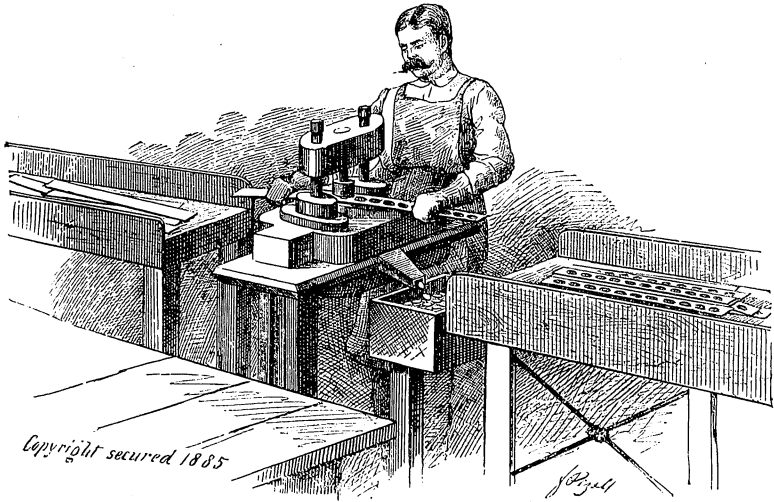
THE GUIDE shows two illustrations of the "cutter," as it appears in operation and as it is entire. Each press is supplied with a steel



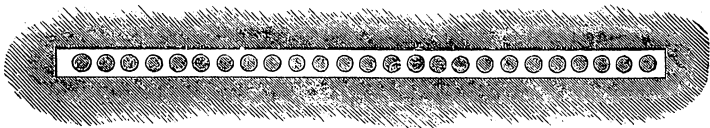
CUTTING PRESS.

punch suitable for a different sized coin. The strips are weighed before being punched, and if exact or over weight they are passed, as

any surplus can be filed off, if too light they are returned for remelting; through the cutter the average number number of "planchets"



CUTTING PRESS AS SEEN BY THE PUBLIC.



PERFORATED STRIP.

or round pieces dropped per minute is 225, though a speed of 280 can be obtained. The perforated strips go back to the crucible.

We follow the planchets into

THE COINING ROOM,

at the northern end of which they are thrown upon a table for sorting; all that show the least imperfection are slipped through a hole into the rejected box, while the perfect ones, placed in another receptacle are carried to

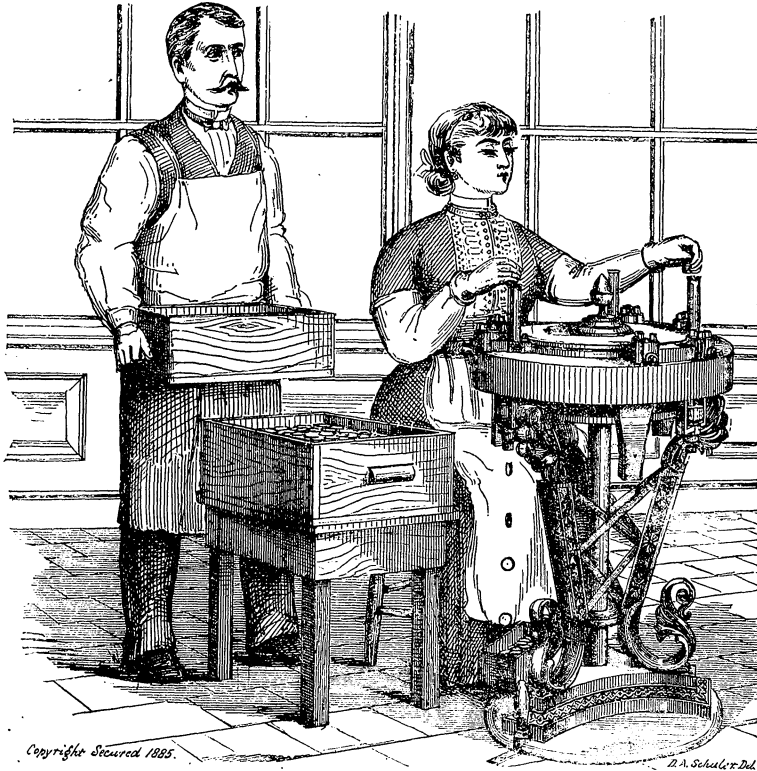
THE ADJUSTING ROOM,

where the nimble fingers of many ladies and the perfect accuracy of the delicate scales before each operative quickly prove the weight of every blank; if too heavy, but nearly right, a few strokes of a fine file makes it perfect, if greatly over weight, it must be remelted. The scales used here are so sensitive that even free circulation of air is not permitted in the room.

After adjustment, the planchets return again to the coining department, and, as a preliminary to stamping, are put through

THE MILLING MACHINE;

the lady attendant feeds the brass cylinder on top with planchets, and each lower piece as it sinks beneath the level of the bed-plate is struck by a revolving feeder which drives it horizontally between a revolving steel wheel on one side, and a fixed segment on the other, and after making four revolutions it drops into a box beneath with the edges turned up slightly higher than the device will be in relief



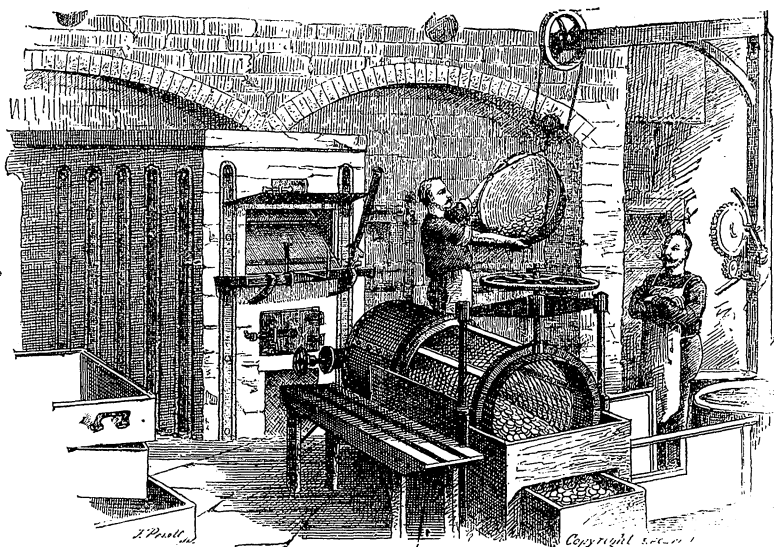
MILLING MACHINE IN OPERATION.

after the coin is struck, and thus effects the object, which is to protect the face of the finished coin and also to admit of the piling of pieces one on the other. Many persons call the fluting or "reeding" on coins the "milled edge," this is an error, and the reeding is part of the process of coining. These machines do their work with wonderful rapidity, but the planchets by the time they are so far through,

are dirty, black, greasy, and look like anything but silver. In order to prepare them for reception of the mark which shall convert them into coin, they are transferred to

THE CLEANING ROOM,

where they are placed in large steel pans or bowls and put into an oven or furnace until the heat causes them to show a color like gold; then a swinging crane, with its hooks and chains, grapples the bowl, brings it over and lowers all down into a tank containing an acid, cleansing solution in a boiling state, and all of the foreign accumulation which has withstood the action of fire, is by the acid removed.

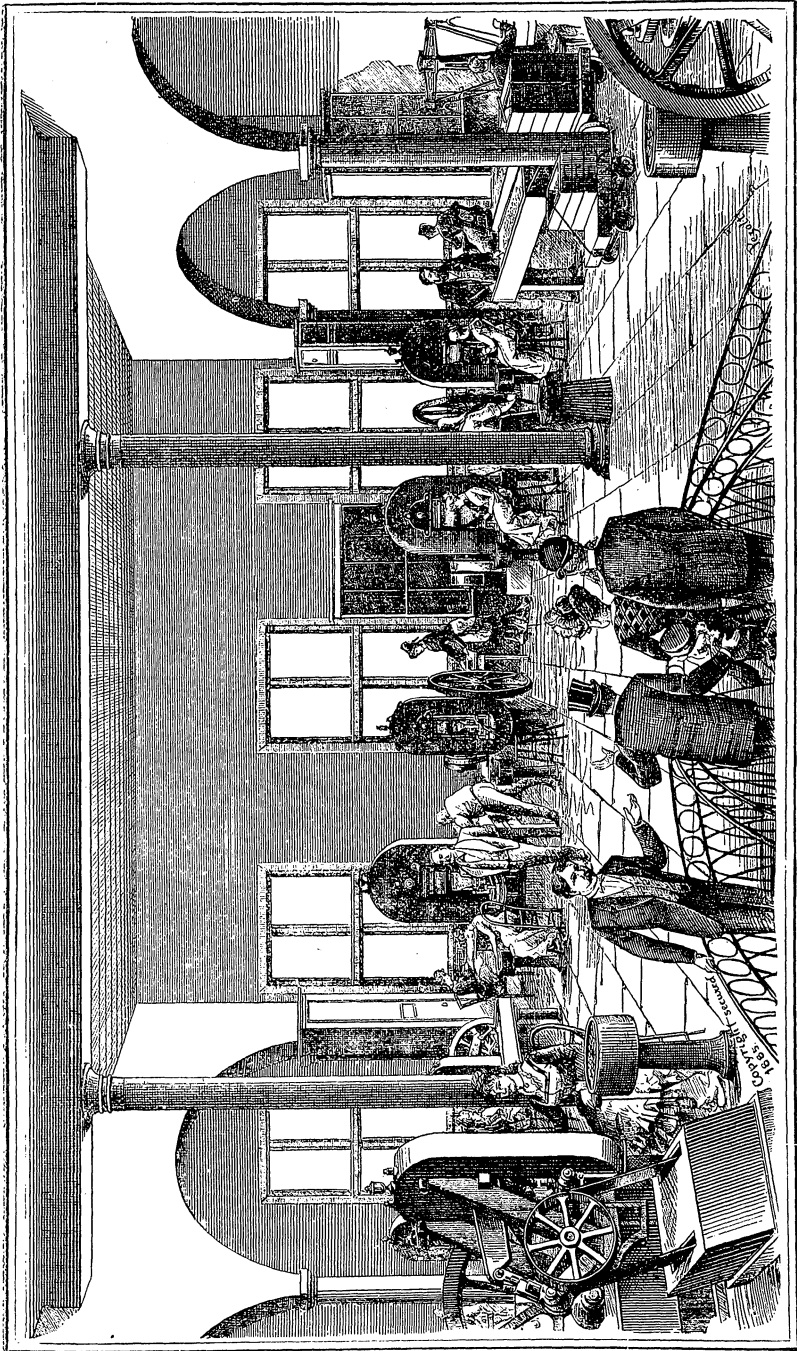


THE CLEANING ROOM.

Next the planchets, wet from their bath, are poured into the end of a revolving wire cylinder in which is a quantity of dry, hot saw-dust in which the blanks are whirled around by the rotating cylinder until when they reach the lower end they are dry, clean, bright, and ready for

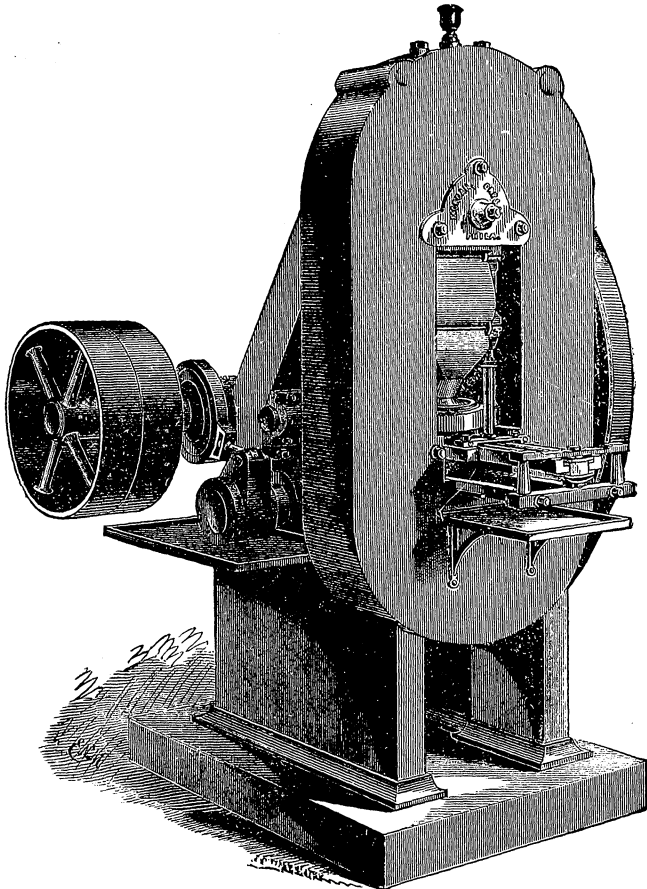
THE COINING ROOM AND PRESS.

In this, one of the most interesting Departments, are ten of the "perfected coining presses" of different sizes and adapted for producing the various denominations, each press capable of finishing from 80 to 120 beautiful pieces of money per minute, the hand of a lady being its only assistant in the work. The arch of the press and table on which it rests are massive iron. In the interior of the arch is a nearly circular plate of brass called a "triangle," fastened to a lever



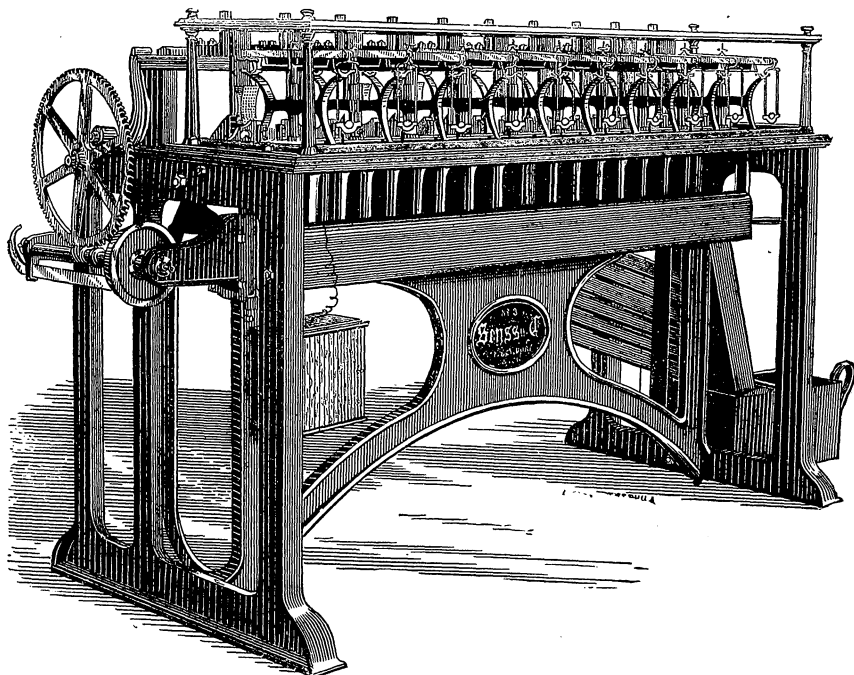
THE COINING ROOM.

above by two steel bands "stirrups," one of which can be recognized in the cut to the right of the arch; the stout arm above it is also by a ball-and-socket joint, connected with the triangle and it is this arm which forces it down. The arm connects with the lever above by a knee-joint and when the crank lifts the further end of the lever the knee is drawn in and the arm forced down until it is perfectly straight, at which stage the crank has made a revolution and again the lever is lowered, the knee forced out and the arm again raised all of which motions are followed by the triangle with the same regularity. Buried in the lower part of the arch, under the triangle is the "die stake," a steel cup in which is fastened a die, bearing the REVERSE impression of the coin to be struck; the base of this die rests solidly



PRESENT PERFECTED COINING PRESS.

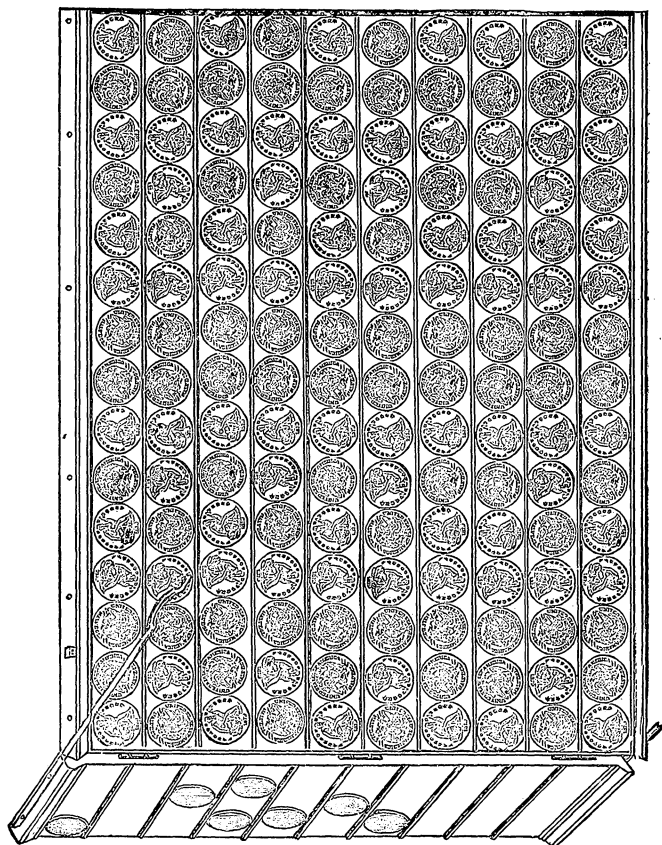
on the iron bed, its face projects about an eighth of an inch above and over this is placed a steel "collar" fluted or "reeded" inside, of exact diameter to receive snugly a blank or planchet; The **OBVERSE** die is fastened into the triangle above. Into an upright tube, just in front of the triangle is fed the planchets, the bottom of these is seized by a pair of steel fingers, carried over the collar and deposited upon the reverse die, then the Knee of the Press straightens, the obverse die in the triangle is forced into the collar, a pressure of about eighty tons is brought to bear upon the imprisoned planchet, the impression is made, the expanding metal is forced into the collar flutings, "reed-ing" results; then the Knee is bent, raising the die about half an inch, the die-stake is elevated so that the newly made coin upon it just clears above the collar, and the feeders, which have been waiting their turn for work, come with another blank and push the **MONEY** off on an incline down which it slides into a box beneath.



SEYSS AUTOMATIC WEIGHING MACHINE

is a peculiar attraction of the coining room, one of the most marvelous and complicated pieces of mechanism in existence. It has ten scales to which the planchets are fed through cylinders, and every piece is weighed, the "shorts," the "overweights" and the exact pieces

are distributed into different boxes, to be disposed of as the Mint laws direct, and if two pieces try to struggle into place at one time an electrical monitor sound the alarm and then only is human intervention necessary.



THE COUNTING BOARDS

used in this Department, and which the cut here given will illustrate; are very simple but most efficacious aids in expediting business. They are flat wooden surfaces, with parallel divisions of thin copper strips, rising just as high as a cent or dime is thick. The coins are thrown upon the board and settle in the ridges; all not finding place are swept to and tilted off the hinged end, the amount remaining on and filling the board is recorded and they are turned into a drawer.

Here also the larger silver coins are first counted by hand, then each thousand pieces are weighed, a slight deviation, above or below

the exact standard is allowed to pass, but it must be VERY SLIGHT, for by law the variation in one thousand double eagles, when delivered to the Coiner, must not exceed seventy-two grains.

Having now witnessed the mechanical operations by which the native metal is converted into the mighty dollar, before describing the artistic and scientific departments, not open to the general public, we follow our guide to the second floor of the building and enter

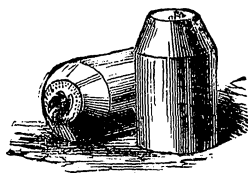
THE CABINET

where, in rooms or a room, fifty-four feet long by sixteen wide, peculiarly adapted for the purpose, is displayed a collection of interesting relics of ancient and modern times that would give the intelligent student months of enjoyable study, and are sufficient to satisfy the appetite of the most greedy curiosity-seeker, Special custodians receive as here. The official existence of THE CABINET began in June 1838, but the wisdom and zealousness of Mr. Adam Eckfeldt, chief coiner, had led him, for years before, to collect pattern pieces of our own, and the best specimens he could obtain of foreign coinage, so that very considerable and valuable material was on hand at that time. Additions have constantly been made, by purchase, pieces rescued from the melting pot, contributions and our own "master" or "proof" coins, terms applied to those first struck from new dies, with extra care, and preserved from all contact which might wear them or dim the brilliancy of their polish. The relics are so numerous that extended description or even mention of all can not be given here. There are fine portraits of the different Directors and Superintendents of the Mint, a splendid collection of classified mineral ores, for the purchase of which, also coins, Congress, in 1839, gave the sum of \$1,000, and 300 dollars has since been annually appropriated for like purposes. Here are the Standard Test Scales, used to prove the weights sent to all U. S. Branch Mints and Assay Offices, and so sensitive as to show a variation of the twenty-thousandth part of an ounce. Left of the entrance is a framed FAC SIMILE of the law which established the U. S. Mint, as signed by Thomas Jefferson, then Secretary of State under President Washington, opposite is a case containing strips exhibiting the color of gold, in its native state and alloyed with copper or silver, above this case hangs a cast from the face of Cromwell, duplicate of one taken immediately after the death of England's great Protector. The grand American Eagle, in a case near the exit door, for six years of his life was an inhabitant of the Mint, and was killed there by accident, he served as a model for the bird seen on the first or pattern nickel pieces in 1856, and put in general circulation in 1857, and upon other coins. Near the western window is Seguier's Machine for sorting coins, its work being in a great measure similar to that of the Seyss Weigher seen in operation

in the coining room. The collection of Washington and other medals, struck in Commemoration of great men and noble deeds, serve to recall the glories of our nation. Colonial coins of every variety, are exhibited and these originals will serve to prove the correctness of our illustrations. In cases, placed against the walls, in the doorways and the middle room are coins of the ancient Greeks and Romans, Persians, Egyptians and Jews. These have been admirably classified by the expert, Mr. William E. DuBois, Assayer of the Mint, and each one of the specimens, with many more, are pictured and described elsewhere in THE GUIDE. There is a very complete collection of mediæval and modern coins of almost every nation on the face of the earth which possesses a metallic currency, and of these also we give FAC SIMILE in this work. There are silver pennies of William, The Conqueror; Scotch pennies, very rare; a penny of Robert II of Scotland, said to be the only specimen extant; the "widow's mite" known to every reader of the Bible, is in these cases, "Siege Money," made when the roar of guns drown the sound of hammers that fashioned the rude coin from silver plate, is represented by a pound sterling of Charles I. "Maundy" and "Gun" money of James II; Tokens of England, Ireland and Scotland are plenty and even some counterfeits are given a place, on account of the excellent rascality exhibited in their manufacture. Among the U. S. coins there is a Double Eagle of 1849, which is the only coin of that denomination struck during that year and bearing that date, also a Quarter-Eagle of 1842, the single one so far as known, in existence. There is a series of "bullet" money of Siam, which ranges from one-third of a cent to five dollars. The "private" gold coins of the Pacific Coats, Utah, N. Carolina and Georgia are to be here seen and are described in this work. In fact a leisurely and careful perusal of THE GUIDE will recall each feature of the Cabinet as well as the whole Mint, and enable the reader to mentally review the entire establishment.

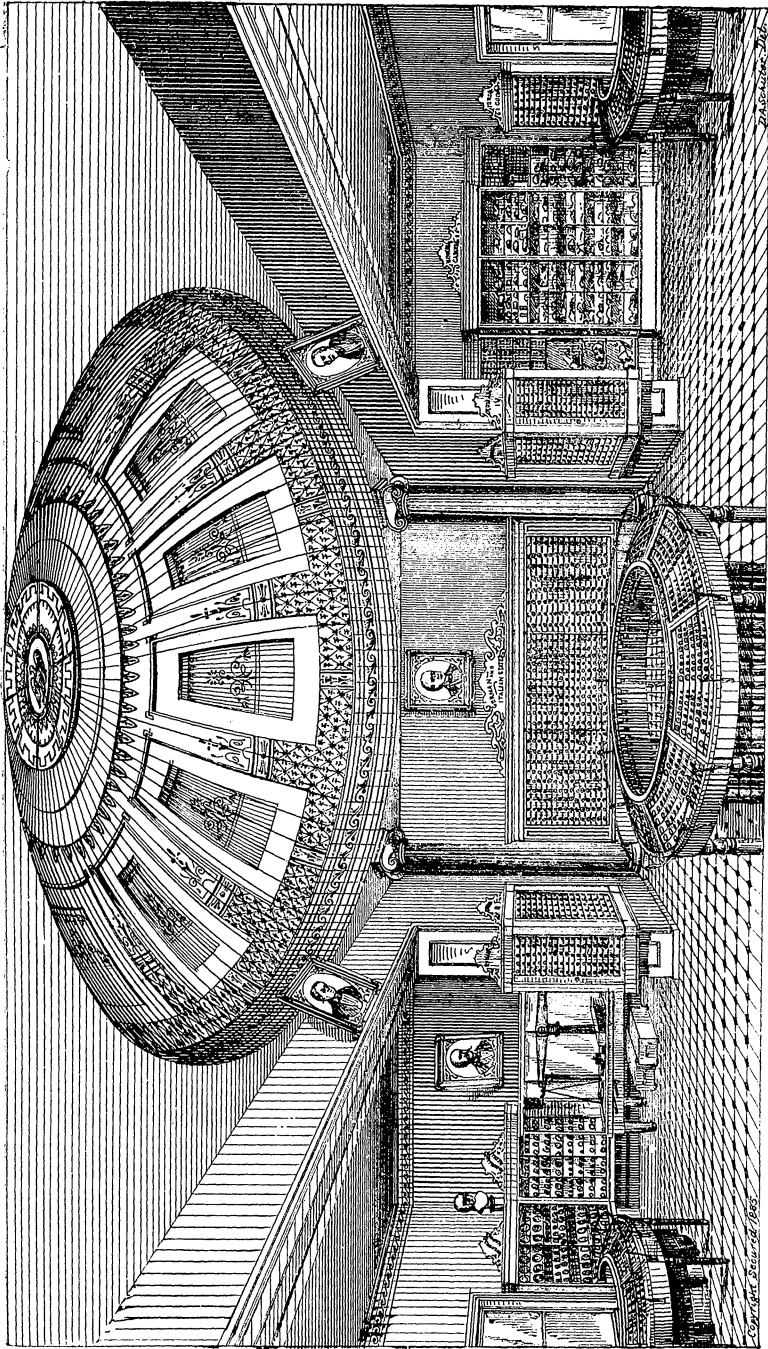
We have now made the tour of all the Departments open to the public, but if the visitors will follow THE GUIDE they will obtain a perfectly clear understanding of all that goes on behind the closed doors. We will first describe

THE ENGRAVING ROOMS



DIES

reached by way of the gallery which runs around the building. At the Philadelphia Mint are engraved all the dies used in it and the Branch Mints of the United States; those made for New Orleans are distinguished by the letter "O" which is found upon all pieces there coined, "S" is placed upon those struck at San Francisco, and "C. C" upon the money



THE CABINET.

made at Carson City. Dies also are here made for medals ordered by government and it is permitted public or private institutions, corporations or individuals, to have dies made and medals struck at this Mint on payment of actual cost of production. The design is first made upon a large scale and then, by means of The Transfer Lathe it is reduced to any desired size, with an exactness of proportion to the original utterly unattainable to the human eye and hand. Though machinery does much, yet the production of dies for such an institution as the mint requires man's art, genius, cultivation and mechanical skill, of the highest order, and the finest materials. The steel used must be of moderately fine grain and uniform in texture, showing, when polished, no spots or patches even when under a powerful magnifying glass. From such metal two short dies are forged; and, by being put in an iron pot, heated to a red heat, and allowed to cool slowly, they are "annealed" or made soft; then they are faced flat and smooth in a lathe and ready for the engraver who traces upon them the design and proceeds to work it out with hard steel tools. When sufficiently finished to pass the most critical examination, the dies are hardened, an operation requiring greatest care in order that all fine lines may be preserved intact; A mask of fixed oil, or oil thickened with animal charcoal, or of lampblack and linseed oil, is put over each face and they are then placed, face downward, in a crucible and roasted in animal charcoal until a cherry-red heat is reached, then they are plunged into a large tank of water and kept in rapid motion until all ebullition has ceased, and are left in their bath until quite cool. If there be any "piping" or "singing" it indicates a crack or other imperfection. Taken from the water the dies are polished, by action of a running iron disc coated with emery flour and oil, and tempered by being put in water which is gradually raised to the boiling point, or by placing them on a heated iron bar until they glow with a rich straw-color, then to increase the strength there may be shrunk upon each an iron ring, or metallic jacket. When all the operations described have been successfully performed, then these dies become "matrices" or "maternal dies" and, as a general thing, they are never employed in striking coin but are used in producing duplicates of themselves in the following manner;—a steel die, softened by annealing, flat at its base and obtusely conical at top, is put in the bed of a die stamping press and the matrice forced down upon it by screw power until a copy is made, in relief upon the soft steel; if one operation does not produce the desired effect it is repeated until by a few touches from the engraver, a perfectly satisfactory "punch" is obtained, and this being tempered and hardened serves to impress the design upon any desired number of dies for use in the coining presses.

We will next explore the mysteries of

THE ASSAY ROOMS

in the S. W. corner of the second floor.

Here the nicest skill and learning of the scientist is necessary, and here is the starting point of all the Mint work, for every deposit,

dust or bar, of gold or silver that comes into the institution must have its value determined, from a sample, by the Assayer, before any further action is taken towards converting it into coin or paying its value to the owner. The necromantic paraphernalia of these apartments are bewildering to the unsophisticated, the calculations here made go far into the infinitesimal, scales are here that an infant's eyelash would turn the beam as quickly as would a pound, the smallest weight used in the Mint is here, the thirteen one-hundredth of a grain, very sharp eyes can see it, without spectacles, when displayed on a white paper in a very strong light. The furnace of the Assayer is a small, upright stove in which is a "Muffle," a wagon-shaped, earthen vessel open at one end only, and having a few slits, or vents, in the top and sides; in this are placed "cupels," small crucibles made of bone-ash which material, while it is not acted upon by fused oxides, is sufficiently porous to absorb them, the use of the "muffle" is to protect the cupels from direct contact with the fuel and flames of the furnace.

To ASSAY GOLD, it must be entirely freed from any copper or silver, or both, that may be combined with it, and a different process is required to eliminate each of these metals. To remove the copper, CUPELLATION is first employed;—in the cupel enclosed by the muffle, to the other metals is added lead, which under heat of the assay furnace, oxidizes, and promotes like change in the copper and other base metals drawing with itself all these into the pores of the cupel, leaving behind only gold and silver. When the "button" in the cupel has cooled it is taken out and hammered flat, then annealed by heat, next passed through rollers, again annealed, and screwed up into a roll; then it is purified by QUARTATION, the silver is dissolved by action of nitric acid and nothing but gold remains, but before this can be effected it is necessary, in order to destroy all the silver, that sufficient of that metal must be added to make its proportion three-fourths that of the gold.

FOR ASSAYING SILVER, there are two methods,—the "dry" or "furnace" assay or "cupellation," and the "wet" or "humid" or "volumetric."

The first process, similar to that described for gold, requires in the case of silver, such nice regulation of temperature and so many precautions, and is then so uncertain, that it is now only used in a subsidiary way to furnish an approximate result, or a basis for the closer and more delicate manipulation of the humid assay which with proper care and due attention to the condition of the liquids is regarded as a perfect system of analysis for silver and entirely reliable. In the "humid" the proportion of fine silver in an alloy is determined by finding the exact amount of a known precipitant required to throw out the fine silver contained in a solution of given weight of the alloy, so that the result is obtained without a final weighing of the precipitated silver. The necessary amount of the precipitating agent being found and the weight of the alloy being known, the number of parts of fine silver in a thousand is deduced by calculation. Nitric acid and a solution of common salt are the liquids employed.

THE SEPARATING ROOM

is also on the second floor, west side; here is taken all the bullion in which gold and silver, or both are combined with baser metals, and by the chemical process used by all refiners each element is separated before being sent to the Melting Room.

OFFICIAL HEAD-QUARTERS.

Leaving the Cabinet and before passing down stairs we find on our right hand, the Office of the Superintendent, where he receives visitors and transacts business, the next door opens into the Chief Clerk's sanctum, adjoining which is the Studio of the Chief Engraver and at the foot of the stairs on the left is the Coiner's private office.

Pursuing our investigation still further we descend to

THE CELLAR AND VAULTS

of the latter there are quite a number, used for various purposes, beneath the building fronting the corridor on Chestnut Street. In the Main Cellar immediately under the Yard are six large boilers in which is generated the steam used in driving the Engines and for heating the building: On the right are the blacksmith, carpenter and paint shops and in the rear is

THE MEDAL STRIKING DEPARTMENT:

a screw-press being invariably used in striking medals and also the "proof" or "master" pieces of every fresh coinage, which being struck from the "maternal" or entirely new dies, present the brilliant, mirror-like surface so valued by collectors. Sets of each proof strike are added to the Cabinet, some are, by official orders given to foreign governments or their representatives, and a few are sold, at a slight premium, to numismatists and connoisseurs.

THE "SWEEPS"

on the west side of the cellar is the "Sweeps" grinding room where all the sweepings of the institution are deposited, and where at intervals, they are ground into fine powder from which, by scientific manipulation all the precious metal, and to a very considerable amount, is extracted and saved to the Government.

THE WELLS.

Even the water used in washing out the different rooms, the rain that falls upon the roof, must yield all gleanings before being permitted to escape. The wells receive and filter every drop, and when they are cleaned the deposits are treated in like manner, and with the same results, as the sweepings.

THE WORKING FORCE.

In the various departments of the U. S. Mint at Philadelphia, there are employed, for work of every character, from superintendent to laborer, an average of over three hundred men and women the year round, and this force does more and better work, with less loss and larger profit for the Government than any like number of person similarly employed in the world.

Having now completed our tour of the Mint, and thoroughly examined its workings, we suppose that sufficient interest has been excited in the visitor's mind to create a relish for

GENERAL INFORMATION

upon the subject of Mints, Coins, &c., and we proceed to furnish material for the leisurly gratification of such desire.

U. S. MINTS AND ASSAY OFFICES.

Under the Coinage Acts of the United States, Mints for the production of coin were established in 1792, at Philadelphia, Penna.; in 1835, at New Orleans, La., Charlotte, N. C., and Dahlonega, Ga.; in 1852 the Branch Mint at San Francisco was created; in 1863 another was erected at Carson City, Nevada, and in 1864, still one more at Dallas City, Oregon. Of these, the Philadelphia, San Francisco, New Orleans and Carson City establishments are now the only ones striking coins. There is a Mint at Denver Colorado, and the "Branch" at Charlotte was continued as such until 1872, but their work has long been similar to the Assay Offices of New York City, Helena, Montana; and Boise City, Idaho; all of which are for the receipt of bullion direct from the miners or their agents; at all of these the metals are assayed, melted, run into bars and stamped, the depositors receiving money value therefor, less cost of transportation and Mint charges. The stamped bars are forwarded to one of the coining stations to be converted into "hard cash." The Official deposit of fine gold bars exchanged for gold coin at the Philadelphia Mint and the New York Assay Office alone, from July 1st, 1883 to June 30th 1884, shows a grand total of \$25,800,800.

EARLY HISTORY OF THE PHILADELPHIA MINT.

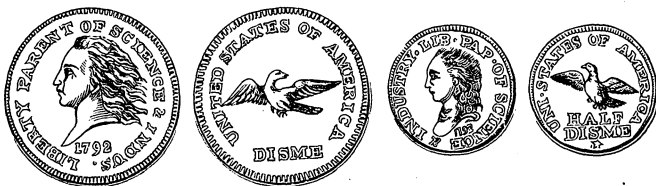
On the 2d of April, 1792, it was enacted by Congress "That a Mint for the purpose of National Coinage be, and the same is established; to be situate and carried on at the seat of the Government of the United States, for the time being."

The seat of the government, at that date, was Philadelphia, and here the original Mint was established. In March, 1801, "An Act concerning the Mint," was approved directing that it should remain in Philadelphia until March 4th, 1803. It has remained until to-day, and will, very probably, never be removed.

The National Coinage was a subject in which President Washington exhibited the greatest interest; so fully alive was he to its importance, that immediately after the passage of the Act of April, 1792, he caused to be purchased a piece of ground, in Seventh Street; east side; midway between Arch and Market Streets; on which stood an old still-house and a frame building. He appointed David Rittenhouse as Director of the Mint, and on the 19th of July, in that year, workmen began to clear the old buildings off the ground. On July 31st, at 10 A. M., Director Rittenhouse laid the foundation stone of the first United States Mint, and from that time pushed matters so energetically that on Friday, September 7th, most of the necessary appliances for work, bellows, furnaces, &c., &c., were

placed "in the shops," and on the Tuesday following the first purchase of raw material was made—six pounds of old copper—"for coinage," 1s. 3d., per pound being paid for it.

Three coining presses, imported from abroad, arrived September 21st, and were put in successful operation early in October, striking half-dimes, of which the President made mention in the Annual



DISME.

HALF-DISME.

Address, delivered the next month. These half-dimes, as they were then called (now known as the "Washington Half-dime") bear upon the obverse side a female bust, facing left, supposed to be a portrait of Martha Washington, who is said to have given sittings to the artist designer; it is also stated that General Washington gave some of his private plate to furnish silver for the coin; a not unlikely story as our illustrious *Pater patriæ* evidently made the Mint a "hobby," referring to it frequently in his official communications, visiting it constantly, supervising its management and details and continually urging increase and variety in its productions.

Other coins were soon struck, they are described and illustrated on our coin pages. The work at the first Mint was done entirely by hand or horse-power; existing bills of the establishment showing that hay and pasture was provided evidently for horses, and rum and cider also bought, certainly for men. During 1797-98 and '99, also in 1802-03, all operations were at times suspended on account of the prevalence of yellow fever in the city.

The first silver bullion was French coins to the amount of \$80,-715.73½, deposited by the Bank of Maryland, on July 18th, 1794, and on February 12th, 1795 the first gold, in the form of ingots, was received and paid for in silver coin, from Moses Brown, a merchant of Boston. The first regular return of coins from the Chief Coiner to the Treasurer of the Mint, was made on March 1st, 1793, and consisted of 11,178 cents; the first return of coined silver was on October 15th, 1794, and the first gold coins were delivered July 31st, 1795.

By the original Act the name, value, weight and fineness of the Eagle, half and quarter Eagle, in gold, and the Dollar, half, quarter, tenth and twentieth, were all distinctly fixed, and thus were banished from the free Union of States the disloyally discordant *pounds, shillings, pence* and *farthings* of the old days of tyranny and servitude.

For forty years the U. S. Mint on Seventh Street, with hand, horse and steam-power, (the latter introduced in 1816), turned out,

from 1792 to 1832, the following number of coins:—132,592 Eagles, 1,925,867 Half-Eagles, 108,392 Quarter-Eagles, 1,440,517 Silver Dollars, 59,584,783 Half-Dollars, 2,506,029 Quarter-Dollars, 8,619,600 Dimes, 4,942,647 Half-Dimes, 62,925,602 Copper Cents, and 69,533,312 Half-Cents; making 2,238,854 pieces in gold; 77,093,576 in silver, 132,458,914 in copper; a total of 211,791,344 coins, representing in money the sum of \$42,171,665.68.

THE MINT OF TO-DAY.

The growth of our country, in extent, wealth and importance, among the nations of the earth, had for many years demanded facilities for coining money, such as could not be obtained in the original building, and the existing beautiful structure was erected, its corner stone being laid on July 4th, 1829, by Samuel Moore, then Director. Working operations were commenced in it in May, 1833, and have been continuous. Numerous alterations have, from time to time, been made in the interior and additions built; in 1854, measures were taken to render it fire-proof throughout; the building should be double its present size to meet the requirement of these busy times. We give a list of Directors and Superintendents of the Mint, from its organization, and also the chief subordinate officers now on duty:

DIRECTORS AND SUPERINTENDENTS OF THE U. S. MINT AT PHILADELPHIA.

1. DAVID RITTENHOUSE, Director, from July, 1792 to July, 1795. Resigned.
2. HENRY WILLIAM DESAUSSURE, Director, from July, 1795, resigned in October of the same year.
3. ELIAS BOUDINOT, Director, from October, 1795, to July, 1805. Resigned.
4. ROBERT PATTERSON, LL.D., Director from July, 1805, to July, 1824. Died.
5. SAMUEL MOORE, M. D., Director from July, 1824, to July, 1835. Resigned.
6. ROBERT MASKELL PATTERSON, M. D., Director from July, 1835, to July, 1851. Resigned.
7. GEORGE N. ECKERT, M. D., Director from July, 1851, to April, 1853. Resigned.
8. THOMAS M. PETTIT, Director from April, 1853, to death, March, 31st same year.
9. HON. JAMES ROSS SNOWDEN, LL. D., Director from June, 1853 to 1861.
10. JAMES POLLOCK, A. M., LL. D., Director from 1831 to April, 1867.*
11. HENRY RICHARD LINDERMAN, M. D., Superintendent from April 1867 to 1869. Resigned.

* With this change the title *Director* was given to an official stationed at Washington, D. C., whose duty it is to supervise all the National Mints, the Chiefs of which have since been "Superintendents."

12. JAMES POLLOCK, A. M., LL. D., Superintendent from 1869 to 1879. Resigned.
13. COL. A. LOUDON SNOWDEN, Superintendent, Appointed March 1, 1879. Resigned June, 1885.
14. HON. DANIEL M. FOX, Superintendent. Appointed July 1st, 1885.

HEADS OF DEPARTMENTS U. S. MINT, PHILADELPHIA.

- Coiner, WILLIAM S. STEEL, Appointed February, 1885.
 Assayer, JACOB B. ECKFELDT, Appointed December, 1881.
 Assayer, Assistant, PATTERSON DUBOIS, Appointed January, 1882,
 Engraver, CHARLES E. BARBER, Appointed 1880.
 Engraver, Assistant, GEORGE T. MORGAN.
 Melter and Refiner, JAMES CURTIS BOOTH, Appointed 1849.
 Cashier, MARK H. COBB, Appointed 1871.
 Curator, R. A. McCLURE, Appointed 1868.

ABOUT COINS AND COINING.

There is much that is interesting, even to one who is not numismatically inclined, in tracing the various stages through which coins, and the producing machinery thereof, have passed, before arriving at the perfection of the present day.

COINS are recognized as an absolute necessity by all human beings intelligent above the brute level, and countries little advanced in civilization, unable to mint for themselves, import the large coins of other nations for business transactions of moment, and as small change make use of articles of adornment, such as shells, glass-beads, &c., or substances suitable for food. Thousands of tons of *cowries* (a small white shell used as a trinket), are sent from the East Indies to Liverpool, and thence to the West Coast of Africa, where they pass as current cash in the purchase of the country's products, principally palm-oil. In the central part of South America, soap, chocolate, cocoanuts and eggs answer the same purpose. In Abyssinia, where the Maria Theresa Dollar, or Thaler of Austria is about the only coin known, the circulating currency consisting of rock-salt, in shape something like a mower's whetstone, called a *humulaks*, cardamon seeds, used as a medicine and condiment, also pass as money. But metals have always been chosen as a means of exchange wherever, and whenever, procurable, and the making of coins from metals, by marks or inscriptions upon pieces of regulated weight and size has been carried on from very early ages, the advancement of men and nations in arts and mechanics being more clearly indicated by their coinage than by any other means.

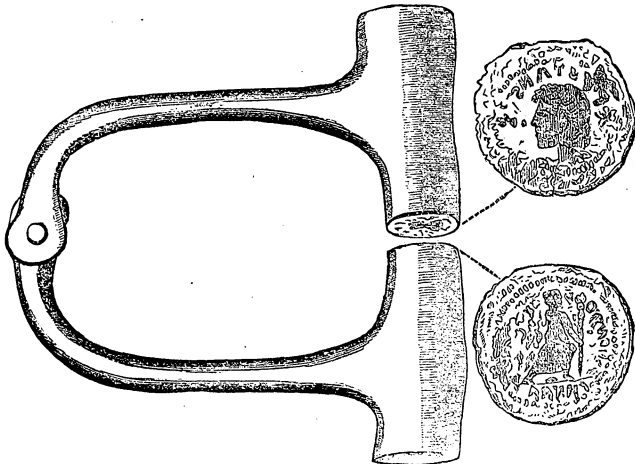
COINING, and the consequent use of coins, cannot be traced further back than the ninth century B. C. Money, however, as a medium of exchange, existed much earlier, and when of metal it passed according to weight, no uniformity being established for the pieces, the scales were required as part of every transaction. The first metallic money was in the form of bars, spikes and rings, the latter could be opened, closed and linked together in a chain for convenience of carriage.

During the dynasty of the Mermnadæ, about 700 B. C., the Lydians, in Asia Minor, to officially guarantee the weight of small gold ingots which they circulated, placed upon them certain stamp marks, and these were the first coins. The Greek cities on the coast and islands near Asia Minor, quickly adopted and improved upon the Lydian invention, their cultivated taste and skill soon producing finely engraved symbolic diés, with figures and names indicating the period of coinage, and to so high a degree of artistic excellence did they attain in this art, that to-day the coins of ancient Greece rival and often excel the best work of modern times.

Primitive minting consisted in placing a lump of metal of fixed weight, generally globular in form, over a die, on which was engraved the religious or national emblem; a wedge or punch then put on top of the lump was held with one hand and struck with a hammer in the other, until the metal was driven into the die sufficiently to secure an impression.

Many dies used by the ancient Romans are in existence, they used and made immense quantities of them, for the hardest metal known to that people at one time, was compounded of equal parts copper, tin and lead, a very soft material for such purpose and soon rendered useless. Steel dies were subsequently employed, and there is one of these in a modern museum, which has been so hammered that its originally conical top has become flat.

That inventors were using their brains at that day is proven by the coining machine of which we give a cut, with the piece it pro-

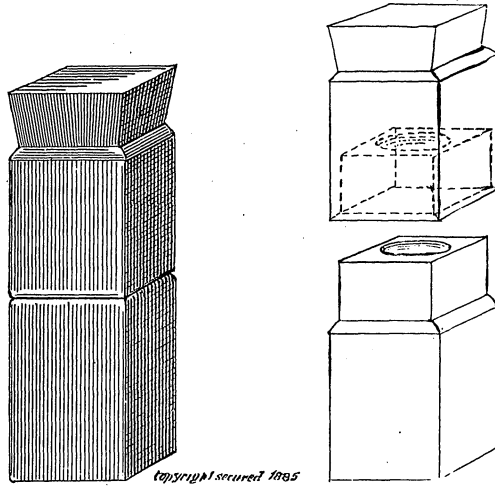


ROMAN COIN PUNCH OF A. D. 350.

duced. This hinged stamp was discovered at Baumont-sur-Oise, and presented to the French Cabinet by the Maire of that Commune. When they were invented it is impossible to say but this one is certainly of the time of Emperor Constans, A. D. 337 to 350. It can be easily seen, that by this instrument the planchet was en-

closed and the blows from a hammer resulted in an impression being made on both sides at the same time; on the picture of the coin, "STANS." all that remains of CONSTANS are still visible; the reverse side shows a Victory, with trophy and palm branch, the remains of the legend being only the letters D. N.

We also give a cut of a stamp in use in the time of Faustina, Jr.,



ROMAN STAMP AND DIE OF A. D. 175.

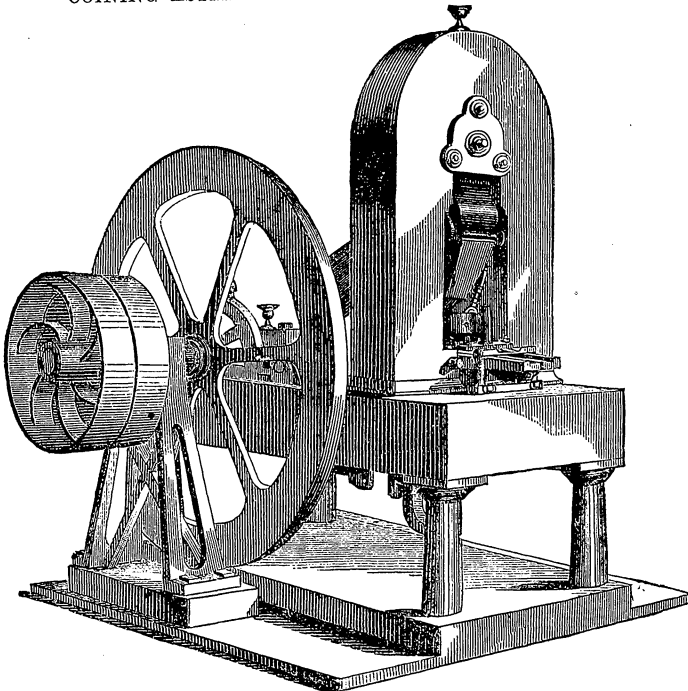
about A. D. 175. Its construction and manner of operation is so evident from the drawing, that further explanation is unnecessary.

In the Middle Ages, the art of Ancient Greece seeme not to have been studied, or to have produced any good results, for the coins and methods of their manufacture were rude in the extreme. We picture from an illustration of the time, the interior of a Mediæval Mint in full operation. One workman hammers the plate to proper thinness, then with hugh shears another cuts it into something like the shape of a coin, and these pieces are impressed, with punch-formed dies, by blows of the mallet. All coins continued to be thus struck in England until 1662 or 1663, when the mill process, which had been introduced nearly a hundred years before, and abandoned after about ten years use, was finally and permanently adopted.

The machine called the *mill and screw* was invented in France in 1553, and there applied for some thirty years, then laid aside as being too expensive; it remained ignored until Briot, a French artist, in 1623, took it to England, where it was at once put into operation, but only for a short time, being discontinued for the same reason as before, and until the Commonwealth was established the British returned to the old hammer and punch. Under Cromwell, M. Pierre Blondeau took charge of the English Mint, he had improved the mill and screw to the utmost and with it created a revolution in the appearance of coins as well as in the mode of production.



COINING ESTABLISHMENT OF THE MIDDLE AGES.



FIRST STEAM-POWER PRESS.

It was by this process all money of the United States was made until about 1836, when a steam coining press, invented three years

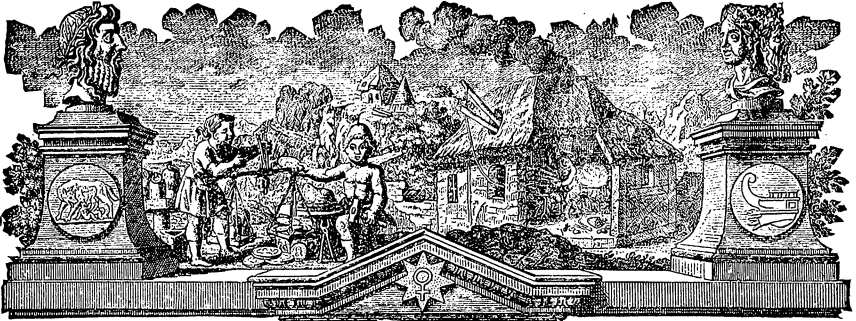
before, by M. Thonnelier, a Frenchman, was introduced in our Mint, the cut here given being a true representation thereof. Some few defects existing were quickly detected and remedied by American inventive and mechanical skill, and greatly improved work was the result.

The press is simple in construction, stands about five feet in height and takes up a space of about four feet by five. After doing good service for many years it was, in 1774, sold, though not worn out, for at the Centennial Exposition of 1876, it was in fine running order and busy in striking off commemorative medals. On the back of this press is the inscription: "First Steam Power Press, 1836. Built by Merrick, Agnew & Tyler. R. M. Patterson, Director United States Mint. Remodeled and rebuilt, 1858, by D. Gilbert. J. R. Snowden, Director United States Mint."

The next grand advance was the production of

THE PERFECT COINING PRESS,

such as is now in use, illustrated and described in detail on our pages relating to the Coining Room. Perfect in every detail, the result of years of hard study, experiment and invention, this press stands as a noble monument of American mechanical skill. Its coinage is noted throughout the civilized world for beauty, and in its working there is a saving of seventy-five per cent. from the loss formerly sustained through destruction of dies.



BIOGRAPHICAL.

DANIEL M. FOX,

Superintendent U. S. Mint,

PHILADELPHIA, PA.

To the entire population of Philadelphia City, and in many other localities, far and near, the name of *Ex-Major* Fox is familiar as household words, and never is it mentioned but with the respect due a man of honor and a record of high duties well and wisely performed.

The gentleman whose life and career is here briefly sketched was appointed by President Cleveland on June 9th, 1885, to the Superintendency of the U. S. Mint in Philadelphia and assumed the position on July 1st, 1885, relieving Col. A. Loudon Snowden, resigned.

DANIEL M. FOX was born in Philadelphia, and comes from true, native American stock, his ancestors being no ignoble; timid citizens of the new nation then forming. His mother's father, Daniel Miller, enjoyed the glorious privilege of being with Washington at Germantown, Valley Forge, New Brunswick, N. J., Highlands, N. Y., and witnessed the surrender of Cornwallis at Yorktown. While the British held Philadelphia, Mr. Miller was brought a prisoner to this city, having been captured as a spy in New Jersey; he contrived, however, to escape and rejoined the American army. When our Independence was won and acknowledged, this sterling patriot made a home for his family in the old "Northern Liberties" District of Philadelphia, where Mr. Fox's paternal grand-father resided, where both his father and mother were born, and where he was ushered into the world on June 16th, 1819.

The parents of Daniel M. Fox had nothing of worldly wealth to bestow upon their son, but they afforded him every opportunity of acquiring the best education attainable at the schools of his home

district, and he had the sturdy good sense to make the most of such advantages. For two years after leaving school he was employed in a store, then, following his inclination, he sought and obtained a place in the office of Jacob F. Hoeckley, at that time leading Conveyancer in this city, and here Mr. Fox spent five years in perfecting himself in his profession. He then open an office himself and for nearly fifty years he has been actively prosecuting the business, even when engaged in public station; straight-forward honesty, steady-going business principles and practices have increased his connection from the first, until, for years he has been recognized as as the head of the fraternity in our midst; it is said that he has had more estates in charge, at one time, for settlement, as administrator, executor or trustee, than any other individual in Philadelphia, and his whole business is of the most extensive and financially important nature.

Notwithstanding the engrossing character of his professional engagements, and the many calls upon his time for gratuitous services in behalf of the general public, Mr. Fox applied himself to the study of law, and in November, 1878, was called to the Bar, being then in his 59th year, and so far as related to age, probably the oldest *young* lawyer ever admitted in Philadelphia. With the vigor and energy of youth, which a temperate and honorable life has secured to him; united to a matured and cultivated intellect, Mr. Fox at once made himself felt in his added vocation, a very considerable clientage immediately sought him and this has advanced continuously, his services being specially in demand in all prominent and important cases involving intricate points of Railroad and Real Estate Law.

AS A PUBLIC MAN.

A mere recapitulation of the many honorable positions held by, and the important public interests entrusted to Mr. Fox by his fellow-citizens will exhibit far better than words of eulogy the high esteem with which he is universally regarded. At the age of twenty-one he was elected a member of the Board of School Directors of the District of Northern Liberties, and for many years was president of that body. In all appertaining to education he was ever enthusiastic, and to his efforts, in a great measure, is due the establishment of a night-school system for adults. He also represented his district for two consecutive terms (elected by Councils) as Director of Girard College, and as one of the Board of Health, for nine years, he had in charge sanitary measures and quarantine regulations of the city, exhibiting rare courage and efficiency during two visitations of cholera which occurred in his time of service.

In Select Councils he represented his Ward for three years, retiring in 1861; the year following he was nominated for Mayor, but his party being greatly in the minority, he was defeated, though gaining many votes from the opposition; again, in 1865 the existing powers were too strong for him, but in 1868, his personal popularity and enviable reputation secured his election over a worthy and respected representative of the then dominant party.

Mr. Fox was inaugurated Mayor of Philadelphia on January 1st, 1869. His administration was marked by very many important reformatory improvements, and he was called upon to meet most trying changes and questions. He effected the transfer of the Fire Department from the Volunteer to the Paid system with a quiet wisdom and nice sagacity which alone saved the city from becoming one vast theatre of arson, riot and bloodshed. The duties of his station relating to courtesy, were always performed with manly grace, dignity and refinement. His firmness in upholding the law, and vigor in securing and punishing criminals was proven on all occasions demanding such exercise of authority. Under him the discipline and value of the Police force was largely improved. Personal feeling or political preference were nothing to Mr. Fox as against the public good. So satisfactory was his administration to the influential and intelligent of the community, without regard to party, that at the close of his official term a splendid banquet was given in his honor at the Academy of Music, and from both Chambers of Councils he received an unanimous vote of thanks for his able and energetic administration of the affairs of our city.

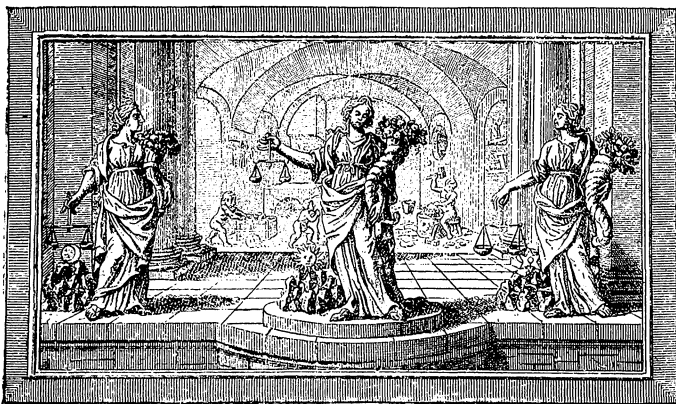
In the grand rejoicing of the Centennial Anniversary of our nation, the valuable aid of Mr. Fox was naturally and necessarily demanded. The project of that wonderful celebration had first been broached during his mayoralty, and to it he gave his official encouragement with most patriotic zeal. As a member of the Centennial Finance Committee his services in aid of the great Exposition were invaluable, his labors unceasing, and the results attained exceeded all expectations.

A most marked recognition of the ability and integrity of Mr. Fox, consisted in his appointment by the "Stalwart" Republican President, U. S. Grant, as one of three commissioners to investigate and report upon a controversy between the Government and the Railroad Companies in regard to carrying the mails, the U. S. authorities complaining that the service was unsatisfactory and the Railroad officials contending that the compensation fixed by law was inadequate. Congress order the Commission of Inquiry and President Grant exhibited his judgment by selecting Mr. Fox as one of its members. The investigation required a visit to nearly every

prominent city in the Union; the holding of innumerable sessions and taking of voluminous testimony; the distance traveled upon this duty was over 28,000 miles. The task was most delicate, requiring experience, practical knowledge and nicest discretion, to loyally protect the government and at the same time render full justice the great mainsprings of commerce and distributors of wealth. The report furnished by the commission was of the greatest value; solid, sound, satisfactory, and conclusive, furnishing the basis upon which a settlement was finally arranged.

Since his retirement from the Mayor's Chair, Mr. Fox has not held political office, though in two successive State Conventions, complimentary votes have been cast in his favor for the Gubernatorial nomination. His extensive business has received his personal attention, but with all its claims he has never relaxed his active labors in works of benevolence or matters of public benefit. No important movement affecting the city government, has been made, for a long time, without consulting him and weighing well his opinion and advice. He is at present, and for years has been President of the Society for Prevention of Cruelty to Children, and his private charities, though known to few except the recipients, are many and unceasing.

To the Superintendency of the United States Mint, with all its treasure, Mr. D. M. Fox brings the same business habits; calm, trained judgment, thorough system. cultivated executive ability and dignified self-reliance which has rendered him so signally successful in private life, professional associations and public station. The wisdom of the President in selecting Mr. Fox for his present important, responsible and honorable position, is admitted by even his most pronounced political foes,—of personal enemies, he has not one.



COINS OF THE UNITED STATES.

GOLD.

The Eagle of ten dollars, to weigh 270 grains, the Half-Eagle and Quarter-Eagle, these latter in proportion to the \$10 piece, were the original gold coins authorized by Act of April 2d, 1792. All three were required to be of a standard 22 carats fine, or 917 thousandths.

The first return of Eagles from the Coiner of the Mint was on September 22d, 1795, the Obverse bore a bust of the Goddess of Liberty, wearing the liberty-cap, from under which the hair was loosely flowing. The bust faced to the right, above it is the legend *Liberty*, with five stars on the right and ten on the left, around the edge of the field, *Exergue, 1795*. The Reverse shows an eagle with wide spread wings, a laurel wreath in the beak and both talons grasping a palm branch. Legend—*United States of America*.

The Half-Eagle was the first gold coin actually struck for the United States, 774 of these were delivered by the Chief Coiner on July 31st, 1795, the design being similar to that on the Eagle. There was a second coinage of these pieces this year no alteration being made in the Obverse, but the Reverse is changed, the eagle being portrayed with upraised wings; upon its breast is the U. S. shield, a bundle of arrows in its left talon, an olive branch in the right, from the beak floats a scroll inscribed *E Pluribus Unum*, a bow of clouds extends from wing to wing encircling a cluster of stars around the head of the bird. Legend—*United States of America*.

In 1796 the only change made in these two pieces was the addition of another star, marking the entrance of a new State (Tennessee), into the Union. It was intended to thus commemorate on our coinage each accession to the number of States, but the idea was abandoned.

The Quarter-Eagle was coined this year, those first struck, to the number of sixty-six, were copies of the Eagle, a change was made in November and with the exception of a few, on which the stars were omitted from the Obverse, the new Quarter-Eagle resembled the second coinage of the Half-Eagle of 1795 in every particular other than size and date.

On the Eagle of 1797, first coinage, the Obverse remains as before with sixteen stars, ten on the left and six on the right of the effigy. The second issue has but thirteen stars around the eagle's head, on the Reverse, which in other respects is identical with that of the Half-Eagle of 1795, second coinage.

Three distinct types of the Half-Eagle bear date of 1797. The first is exactly similar to that of 1796, in the second the only alteration is the addition of one more star on the Obverse, the third is a repetition (with changed date), of the second coinage of 1795, the pieces being struck from an altered die of that year.

In 1797 and 1798 some slight changes were made in the Quarter-Eagle, there being but thirteen stars on the Obverse, the Reverse continued as before.

During the years 1798, 1799, 1800 and 1801, the Eagle presented the same devices as the second coinage of 1797.

There are two types of the Half-Eagle of 1798. The first with the liberty-head, wearing a cap, facing to the right; and above it *Liberty* on the



Obverse. The Reverse has an eagle with extended wings, grasping in both talons an olive branch, and in the beak a laurel wreath. Legend—*United States of America*. In the later coinage of this year there is no change on the Obverse, but the Reverse is similar to that of the second issue of 1795, and this style was continued through the years 1799 and 1800, with change of date only. No Half-Eagles were issued in 1801.

During 1799, 1800 and 1801 no Quarter-Eagles were issued.

There was no issue of Eagles during 1802, and those coined in the years 1803 and 1804 were of the pattern of 1801.

The Half-Eagle of 1802, 1803, 1804, 1805 and 1806, bears on its Obverse the Liberty-head with Cap, facing to the right, above it *Liberty*; the Reverse is the same as the second coinage of 1795.

There was an issue of the Quarter-Eagle in 1802, in style similar to those of 1798, but none were coined in 1803. From 1804 to 1807, both years inclusive, the piece was made in every particular, except date, exactly like those of 1802.

From 1805 to 1837, inclusive, the Eagle was not issued.

Two coinages of the Half-Eagle appear in 1807. The first is a repetition of the last issues; the second type exhibits some marked changes, the Liberty-head on the Obverse wears a turban, on the band of which is inscribed *Liberty*, the face is turned to the left, along the edge of which side are seven stars, and six more are on the right, *Exergue* 1807. Reverse; a spread-eagle with U. S. shield on the breast, three arrows and an olive branch in the talons, above, in the field, is a scroll inscribed *E. Pluribus Unum*; Legend—*United States of America, Exergue, "5 D."*

The Quarter-Eagle of 1808 shows some change; on the Obverse is the Liberty-head, above is the word *Liberty* in a curved line and below the date. The Reverse continues as before. After this year (1808), the coinage of Quarter-Eagle was discontinued to and through 1820.

There was but one coinage of Half-Eagles for each of the years 1808, 1809, 1810, 1811, 1812, 1813, 1814 and 1815, the design being the same as that of the second issue of 1807, no change appearing except in the date. No gold pieces of this denomination were issued in 1816 or 1817.

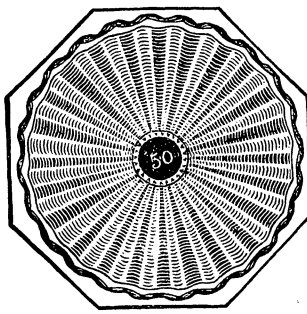
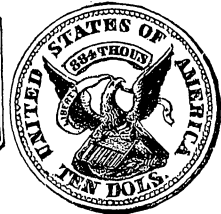
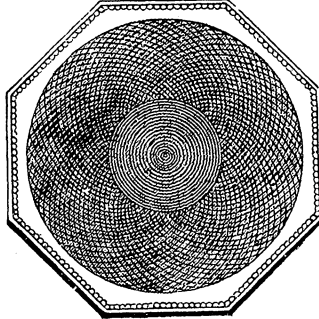
In 1818 and to 1828, inclusive, the Half-Eagle has the same Obverse, with change of date, and the general device of the Reverse is as before except it has as *Exergue "Five D."*

The Quarter-Eagle coinage was resumed in 1821, the piece being patterned after the Half-Eagle, namely; Obverse, Liberty-head with turban and band bearing the word *Liberty*; thirteen stars around the edge. Reverse, Eagle with U. S. Shield on the breast, three arrows and an olive branch in the talons, a scroll above, inscribed *E Pluribus Unum*; Legend—*United States of America. Exergue "2½ D."* These same devices were continued, the date alone being changed for each year's coinage, on the Quarter-Eagle up to the year 1834; though in 1822, 1823 and 1828, none were issued.

In 1829 there were two distinct coinages of Half-Eagles, both similar to the issue of 1818-28 but the size of the coin was reduced one-sixteenth of an inch in diameter and no changes were made until 1834.

By Act of June 28th, 1834 the weight of the Eagle was reduced to 258 grains and the fineness to 899.225. Again, by Act of January 18th, 1837, the fineness was advanced to 900, and at this standard it has since remained; of course the "Half" and "Quarter" were reduced in proportion.

The year 1834 gave two coinages of Half-Eagles, the first being a reproduction of the years immediately preceding, the second has on its Obverse, the Liberty-head facing left, a fillet, bearing the word *Liberty* binding the head, curls falling down and around the neck, thirteen stars surrounding the effigy. Reverse same as former. The piece was again, be-



gining with this second issue reduced by one-sixteenth of an inch ; there was no further change until 1839.

In this year (1834) there were also two distinct coinages of the Quarter-Eagle, the first was identical in every detail, except date, with those of 1821. The second is a reduced fac-simile of the last described Half-Eagle the only difference being the exergue: "2½ D," and these designs were continued until 1840.

The coinage of Eagles was resumed in 1838, the Obverse of the new piece presented: a Liberty-head, facing to the left, hair done up in knot and curls falling over the neck, a coronet upon the forehead bearing the word *Liberty*, around the edge of the field, thirteen stars; *Exergue* 1838; Reverse: an eagle with U. S. Shield upon its breast, an olive branch and three arrows in the talons; Legend—*United States of America*; *Exergue*, "Ten D." In 1866 a change was made by the introduction, on the field of the Reverse, above the head and between the wings of the Eagle, of a scroll inscribed *In God we Trust*, and this constitutes the only alteration that has been made in the Eagle since 1838.

Half-Eagles in 1839 were struck from an entirely new die, the devices being similar to the change made in the Eagle except the *Exergue* on the Reverse: "Five D." The next change was made in 1866, when the scroll with "In God we Trust" upon it, was added to the Reverse. Since that time the only variation has been in the date of issue.

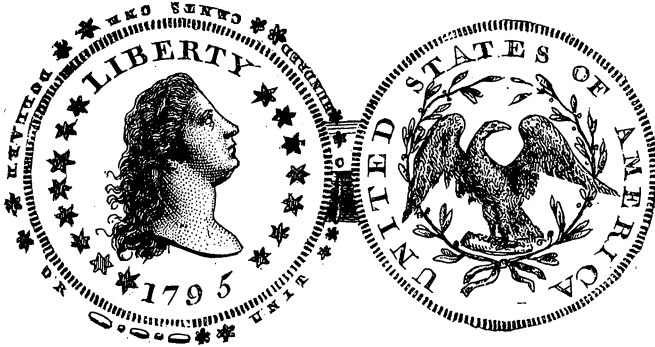
The Quarter-Eagles of 1840 were made to conform in appearance with the larger coins, having the coroneted Liberty, &c., as described, with *Exergue* "2½ D" upon the Reverse; and there has been no further change to the present time.

The Double-Eagle was first coined in 1849, being authorized by Act of March 3d in that year; its weight ordered to be 516 grains and 900 in fineness. Obverse, the Liberty-head, facing to the left, hair in a knot, curls falling over the neck, a coronet on which is inscribed *Liberty*; thirteen stars around the edge of the field and *Exergue*, 1849. Reverse: an Eagle with wings expanded and elevated, on its breast the U. S. Shield, a divided scroll, passing downward on each side, bears the words *E Pluribus Unum*, a halo, or blaze, extends in a half-circle from wing to wing enclosing thirteen stars; in the talons are barbed arrows and the olive branch; Legend—*United States of America*; *Exergue*, "Twenty D." The same devices were continued upon coins of this denomination until 1866, when the motto *In God we Trust* was inserted among the stars, inside of the halo circle; no further changes were made until 1877, when the *Exergue* on the Reverse was altered to "Twenty Dollars," and the style then adopted is still continued.

In 1849 appeared also the Gold Dollar, authorized by Act of March 3d, same year, its weight being fixed at 25.8 grains, 900 fine. This little coin had on its Obverse the liberty-head, facing left, a band about the forehead on which is the word *Liberty*, and thirteen six-pointed stars around the edge of the field. Reverse: A laurel wreath enclosing, in three lines, the inscription, *1 Dollar 1849*, and this is surrounded by the Legend—*United States of America*.

A Fifty-Dollar Gold Piece, in 1851, came from the United States Assay Office in San Francisco, Cal., which was established by Act of Congress the year previous. There are two varieties of this coin, then popularly known as the "California Slug." Though these pieces were never authorized by Act of Congress, yet they circulated and received acknowledgment as United State Coin, and as such may properly be here classified. An octagon shape characterizes both types; the first has on the Obverse an eagle, with upward spread wings, supporting a reclining U. S. shield, its talons grasping three arrows and an olive branch, from its beak, to the left, flies a scroll inscribed *Liberty*, over the head of the bird is another

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inset bearing *880 Thous.*, beneath is *50 D. C.* Legend—*United States of America.* All the above is enclosed in a beaded circle, outside of which, around the octagon edge, is *Augustus Humbert United States Assayer California of Gold, 1851.* The second variety, which is here illustrated, is generally similar to the first, but much more finished and the error of transposition is corrected to read, *Augustus Humbert, United States Assayer of Gold California.* The *50 D.* is also changed to *Fifty Dolls.* In both pieces the edge is *grained* and the Reverse, in each variety, shows a peculiar and intricate lining, but no inscription. These coins were prepared and issued by Messrs Moffatt & Co., as contractors, and have always been found fully up to their professed standard.

In 1853, from the same source, came a Twenty-Dollar piece, circular in form, with Obverse similar to that within the circle of the fifty dollar coin, except that the scroll is inscribed *800 Thous.*, and the *Exergue* reads *Twenty D.* Reverse bears the same web-work of lines as the larger piece, but across the centre is an open space on which is lettered in three lines, *United States Assay Office of Gold San Francisco California 1853.*

A Ten-Dollar Gold Piece, identical with the last described, but having the *exergue* *Ten Dols.* and *88½ Thous.* in scroll on the Obverse, and the date *1852* in the lettering of the Reverse is also one of this particular coinage, all of which have the *grained* edge and are invariably found equal to the weight and fineness claimed.

The Three-Dollar Gold Piece was authorized by Act of February 21, 1853, the weight to be 77.4 grains, fineness 900. The first coins of this denomination were struck in 1854; on the Obverse is a head, representing an Indian princess with hair lightly curling over the neck, head crowned with a circle of feathers the band of which is inscribed *Liberty*, and around the edge *United States of America.* Reverse: A wreath of tobacco, corn, wheat and cotton occupies the field, in it, in three lines, *3 Dollars 1854.* No change has been made in these dies except date of the year.

SILVER.

In 1794 the first Silver Dollar was issued from the U. S. Mint, few were coined and the pieces, when in good condition, command a very high premium. On the Obverse is an undraped bust, bare-headed, with hair flowing down the neck, over the head is *Liberty*, beneath, "1794"; seven stars around the edge fronting the face and eight behind it. Reverse: an Eagle with uplifted wings, standing upon a support, a wreath surrounding the bird is joined beneath with a ribbon, the Legend—*United States of America* is around the field, and on the edge of the coin is lettered *Hundred Cents One Dollar or Unit*, the words being divided by stars and sunken oblong marks.

The first "Silver Half-Dollar was also coined in 1794; it is an exact counterpart of the Dollar, except in size and the edge lettering, which reads: *Fifty Cents or Half Dollar.*

There are two types of the Dollar dated 1795, one of these is identical with the original coin, the other, made near the end of the year, shows the bust on the Obverse partially draped, with hair in loose curls, the ends of a ribbon appearing behind, there are only six stars facing the effigy and seven behind; the Eagle of the Reverse rests upon a mass of clouds.

Until 1798 there was no change worthy of mention in the Dollar, in this year there are two issues bearing respectively fifteen and thirteen stars and on the Reverse of one type is the Eagle displayed, on its breast a large U. S. Shield, in the right talon an olive branch and in the left a bundle of arrows, an arch of clouds extends from wing to wing enclosing thirteen stars, and from the beak floats a streamer inscribed *E Pluribus Unum*, Legend—*United States of America.*



The Half-Dollar of 1795 was the same as the original, but in 1796, on the Obverse of the coin was placed the draped bust with ribbon on hair as described in the second coinage of the 1795 Dollar, and the Reverse shows the Eagle supported upon clouds, the fraction $\frac{1}{2}$ beneath.

Quarter-Dollars were first coined in 1796, in device they resemble exactly the Dollar and Half-Dollar of the same year, except that the edge is reeded, not lettered. No more "Quarters" were issued until 1804.

In 1796 was first issued the Dime, with the exception that they are so proportioned in size and weight as to be the tenth part of a dollar; the original Dime is a fac-simile of the Quarter Dollar of the same year, the reverse bearing the "small eagle" resting upon clouds.

The Half-Dime was the first silver coin made in the United States Mint. *Half-Dimes* they were originally called when struck in 1792. In 1794 they were put in circulation and in that year and the next followed exactly the pattern of the Half-Dollars of the same date, with fourteen instead of thirteen stars. In 1796 this coin was a copy of the Dime of that year, with fifteen stars, and in 1797 there were three varieties all bearing the same general designs but with thirteen, fifteen and sixteen stars.

The Dollar of 1799, in one type, has five instead of six stars facing the effigy, all others of that and each subsequent year, up to 1804, are like the larger issue of 1798.

The Half-Dollar of 1797 was the same pattern as that of the year before; during 1798 and 1799 no coins of this denomination were issued.

In the Dime of 1797 there was no change from the first devices except the date and in one variety, which has sixteen stars. In 1798 the Reverse is changed to the eagle under the bow of clouds, like the quarter of 1804.

From 1800 to 1805, inclusive, the Half-Dime shows thirteen stars on the Obverse; the large eagle being adopted on the Reverse.

The Silver Dollar of 1804 is very rare, not more than ten are known to be in existence, and it is alleged that the dies were not made in the year for which they are dated, but long after that time, and for the purpose of striking coins for presentation. Dollars bearing this date (1804) have been sold for \$350 and \$750. From this year to 1835 inclusive no Silver Dollars were issued.

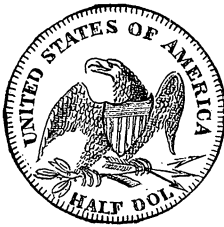
In 1800 no Half-Dollars were coined, and in 1801 the pattern was changed, making the Reverse similar to the dollar of same year and omitting the fraction " $\frac{1}{2}$," which has never again been put upon the coin.

The Dime from 1800 to 1807, both years inclusive, are identical with those of 1798.

Half-Dimes from 1800 to 1805 inclusive, have thirteen stars on the Obverse, with the "large eagle" Reverse, after 1805 the issue of coin was suspended until 1829.

There were no Half-Dollars coined in 1804, but this year the issue of Quarter-Dollars was renewed, though only a few were struck, and this coin bearing such date commands a high premium. The Reverse of this and also 1805-6 and 7, shows the displayed eagle with the stars and clouds above its head. From 1807 to 1815 no "quarters" were coined.

On the Half-Dollar of 1807, the Liberty-head, facing to the left is adopted for the Obverse, the bust is draped with a Roman mantle, the hair falls gracefully over the shoulders, and on the head is a liberty-cap the band inscribed *Liberty*; seven stars are on the left of the effigy and six on the right; beneath is the date "1807." Reverse: an Eagle, with wings expanded, the U. S. Shield upon its breast, three arrows in the left and an olive branch in the right talon; *E Pluribus Unum*, upon a scroll above. Legend—*United States of America. Exergue* "50c." The punctuation marks were also left off the edges leaving thereon plain *Fifty Cents or Half-a-Dollar*. Both this and the old style are found in circulation.



In 1809 the Dimes were changed to correspond with the Half-Dollar of 1807, the *Exergue* being "10c.," and this style was continued until 1837, except in 1828 when there were large and small dates. In 1810, 1812, 1813, 1815, 1816, 1817, 1818, 1819, and 1826 the Dime was not issued. There were overstrikes in 1798, 1811, 1814, and 1824.

Coinage of Quarter-Dollars was resumed in 1815, the design being similar to that of the new Half-Dollar of 1807. None were issued the two years following, in 1818 the same style were struck, nor was there any change in the pattern to the end of 1823 when there was again a suspension of coinage of this piece. The 1823 "Quarter" is very rare and a specimen has brought one hundred dollars. In 1827 it is alleged that only four "Quarters" were coined but a number of pieces have been struck from the old dies since that time.

There are overstrikes of Quarter-Dollar, 1806 over '05, 1823 over '22, 1824 over '23 and 1825 over '24. In Half-Dollars, with the exception of 1816 when there was no silver coinage, there is no change worthy of note until 1836, in the latter part of which year a smaller head was placed on the Obverse, what is known as the *Gobrecht* head, named for the artist who designed it; on the Reverse 50 cents replaces the "50 c.," the letters of the legend are smaller, and the edge is reeded instead of lettered. There are pieces of the old style also bearing this date. The Half-Dollars of interest to collectors, as overstrikes of previous years are, 1808 over '07, 1817 over '13, 1818 over '17, etc.

A marked change in the Quarter-Dollar was made in 1831, the diameter was considerably reduced and to retain the legal weight there was a corresponding increase in thickness. The devices were the same but the scroll with motto *E Pluribus Unum* was omitted from the Reverse.

For five years there was no change made in our silver coins.

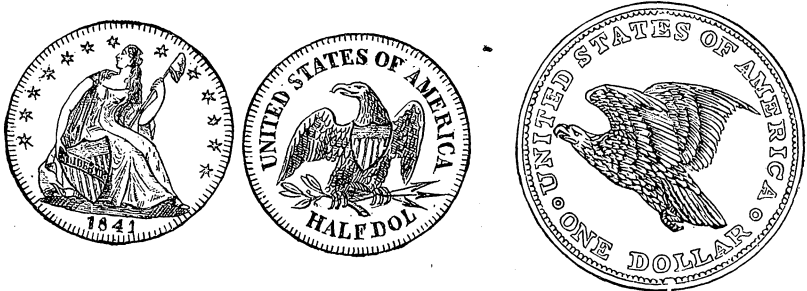
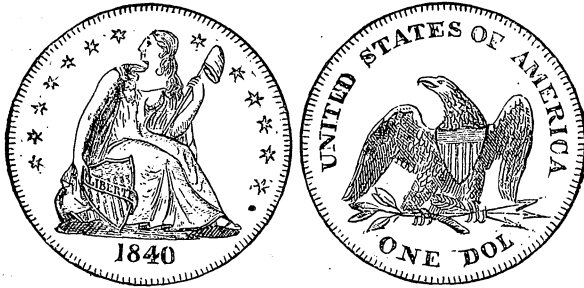
In 1836 a Dollar of entirely new design was issued. On the Obverse is the full figure of the Goddess of Liberty seated upon a rock, the face is turned sideways and looking to the left, at her side is a U. S. shield across which floats a scroll inscribed *Liberty*, the left hand supports a staff on which is a liberty-cap, on the base, on which rests the figure, is *C. Gobrecht, F.*, the name of the designer and engraver. *Exergue*, "1836." Reverse: An eagle in flight surrounded by twenty-six stars of different sizes, typical of the States of the Union. Legend—*United States of America*. One thousand dollars of this pattern were struck and eighteen pieces with the name of *Gobrecht* in the field above the date instead of upon the base of the support; this last variety brings a high premium.

In 1837 no Dollars were issued and there was a limited coinage of this denomination in 1838, the changes from 1836 being, on the Obverse, thirteen stars were placed around the edge, seven being toward the right hand of the Liberty, five towards the left and one between the head of the figure and cap on the head of the staff; on the Reverse is the flying eagle, but all the stars are taken off the field. A fine proof dollar of 1838 is worth forty times its face value.

The Dime was changed in 1837, the seated Liberty appears on the Obverse, no stars in the field, and the date under the figure. Reverse: The Legend—*United States of America* around the edge, inside of which are two half wreaths united below by a ribbon, and these encircle the words "One Dime" in two lines.

In 1829 coinage of the Half-Dime was resumed, and from that year to 1837 inclusive, the pattern on this coin was a copy of the Half-Dollar of corresponding date.

The Dollar of 1839 is similar to that of the year preceding; only a few hundred were coined and the pieces are so rare that they command a high premium.



On the Half-Dollar of 1838 the only change is made in the Reverse, "Half-Dol." being substituted for "50 Cents." In 1839 the seated Liberty is placed on the Obverse; both styles were, however, issued that year, the small letters of the Reverse being retained.

For the year 1853 there are two types of Quarter-Dollar, the Liberty-head and the seated Liberty, "Quar. Dol." on the Reverse. On the Dimes of this date the stars are added on the Obverse. In 1837 the Half-Dimes were made with the seated Liberty, without stars, but in '38 the stars were inserted.

In 1840 the Reverse on the Dollar was changed, the eagle with outspread wings is restored, with the U. S. shield on his breast, an olive branch and three arrows in the talons. Legend—*United States of America*, "One Dol." The edge is grained; this was the first authorized dollar having this feature. The Obverse device of 1838 was continued on the Dollar until 1873. The Reverse just described was unchanged until 1866 when a scroll was introduced, over the eagle, in which is the words, *In God we Trust*.

The Three Cent Piece was first issued in 1851. On the Obverse is a "C" enclosing "III," and thirteen stars around the edge; the Obverse has a shield set in a star. Legend—*United States of America*, and the date. These coins were made with 25 per cent. of copper until 1854 in which year their fineness was raised to the regular standard for silver coinage, the star was given sharper points and an olive branch and bunch of arrows is introduced above and below the numerals enclosed by the "C." No further changes were made in this coin up to discontinuance of its issue in 1873.

In 1853 the Half-Dollar and all lesser silver were reduced in weight, the Half being made to scale 192 grains and the others in proportion. In order to distinguish coins of the new standard from the old ones bearing the same date there was an arrow head placed on each side of the date, and on the Reverse of the Half and Quarter-Dollar the eagle was encircled by diverging rays. In 1854 the rays are omitted and in 1856 the arrow heads were removed.

The Dimes, from 1839 to 1859 inclusive, exactly resemble those of 1838, except in one type of 1853, and all coined in 1854, 1855, on which the arrows, indicating a reduced standard, are seen on each side of the date.

On the Half-Dimes, from 1838 to 1860, the type of 1838, Liberty seated and stars, was continued.

In 1860 another change was made in the Obverse of the Dime, consisting in removal of the stars and substitution therefor of "United States of America," the alterations of the Reverse were; taking off the Legend and filling the field with a wreath of cereals which encloses the words "One Dime" in two lines. A corresponding re-arrangement on the Half-Dime took place at the same time.

The Dollar remained without alteration until 1873, when the coin of the country and National credit was disgraced by what is, or was known as the "Trade Dollar," a coinage authorized and coined in order to work up the surplus accumulation of silver from Nevada. By act of February 28th, 1873, the weight was ordered to be 420 grains, fineness 900, value \$1.00, and they were legal tender to the amount of five dollars in one payment. It was understood that this coin was made and intended for the China trade, but they were soon extensively circulated throughout the Union, received at their face value by all classes. By Act of Congress, July 22d, 1876, the Trade Dollar was deprived of its legal tender value and became in a few years a Dollar which was no dollar, but a piece refused on every hand, and only purchased by dealers at 85 cents; its coinage was discontinued by law in 1878, but "proofs" were struck at



the Philadelphia U. S. Mint in 1879-80-81-82-83, and these being valuable to collectors, command a premium.

In selecting a design for the Trade Dollar, the U. S. Congress had seven patterns to choose from; they adopted the most unmeaning and inartistic. On the Obverse is an illy proportioned, gigantic Goddess of Liberty, seated upon a cotton bale, against the rear of which rests a sheaf of wheat, from the left hand trails a ribbon inscribed *Liberty*, the right hand is extended and holds an olive branch, seven stars are behind the figure, two behind its head and the branch and four directly in front; in a label at the effigy's base *In God We Trust*, and beneath all the date. Reverse: Eagle with wings uplifted and head turned to the right, three arrows and an olive branch in the talons, Legend *United States of America* encircling upper half of the border, a scroll bearing *E Pluribus Unum* above the head of the Eagle; beneath the bird *420 Grains, 900 Fine*, and the Exergue: *Trade Dollar*. We give this full description as the "Trade" is a dollar of the past and a piece which will remain discreditably historical.

By Act of February 12th, 1873, the weight of the Half-Dollar was reduced, to conform with the metric system, to 12.5 grams or 192.9 grains Troy; the Quarter-Dollar to 6.25 grams or 96.45 grains Troy; the Dime to 2.5 grams or 38.58 grains and the Half-Dime was discontinued. With the exception that a portion of each denomination above issued after the change of standard, have the arrow heads on both sides of the date (1873), which distinguishing mark is continued through 1874; there has been no alteration in the devices of any of them or of the fineness, which has remained at 900 parts in 1000 fine. Dimes most valuable to collectors are those of 1796-7-8, 1800-1-2-3-4-5-7-9-11-22-46.

The Twenty Cent Silver piece was authorized by Act of April 2d, 1875, to be 900 fine and weigh 77.16 grains. Legal tender at 20 cents for five dollars in one payment. The Obverse is a reduced *fac-simile* of the "Quarter" of same date. Reverse: Eagle with uplifted wings, *no motto* or scroll; a star on each side in line with the ends of the wings, in talons of the bird three arrows and an olive branch, the head looks to the right, Legend—*United States of America*. Exergue, *Twenty Cents*. The edge is plain. This coin was aimed for circulation up to and through 1876. In 1877 and 1878 only "proofs" were struck and these are very rare, bringing a considerable advance on their face value. By Act of May 2d, 1878, the coinage of the Twenty Cent piece was discontinued.

The Dollar of 1878 is known as the "Bland" and the "Standard" Dollar and it presents entirely new features. Obverse: a new and beautiful type of the Liberty head, with small cap at back, the hair falls in graceful curls over the neck, is rolled back from the brow and crowned with a band inscribed *Liberty*, between which and the cap front appear wheat-spears and other cereals; the Legend *E Pluribus Unum* forms a half circle above the effigy, seven stars front the lower half of the face and six are behind. Exergue, 1878. Reverse: An Eagle with wings high, uplifted, as though poised for flight, the branch and three arrows grasped in its talons, head looking to the left, two half wreaths encircle the sides of the bird, and are joined by a ribbon knot below it, above its head between the wings, in "Text" is *In God We Trust*, at the commencement and end of the Legend—*United States of America* is a six-pointed star. Exergue, "*One Dollar*." The original piece showed eight feathers in the tail of the bird, on a new die made in 1878, by a mistake of the engraver, only seven feathers appeared in that appendage. Collectors generally insist upon having both varieties though the first mentioned is by no means rare.

Nickel Three Cent Piece, authorized by Act of May 3d, 1865, coined



the same year. Legal tender to amount of 25 cents; weight, 30 grains. Copper, 75 per cent.; nickel, 25 per cent. Obverse: Liberty-head, facing left, hair bound and crossed by band, coronet on forehead, inscribed *Liberty*, and date below. Reverse: A laurel wreath joined below by ribbon bow enclosing "III." No change has ever been made in the design of this piece; of late only a few have been coined each year, as the demand for them is very slight.

Nickel Five Cent Piece, authorized by Act of May 16th, 1836, coined same year; 25 per cent. nickel, 75 per cent. copper, weight, 77.16 grains, legal tender to amount of 25 cents. Obverse: U. S. Shield, surmounted by cross, with sections of an olive wreath pendent at each side, the feathered end and barb of an arrow appears on both sides of the shield's base, below all the date, and above the shield *In God We Trust*. Reverse: A circle of thirteen stars and rays enclosing a large "5." Legend—*United States of America*; *Exergue*, "Cents." There are two types of "Nickel fives" in 1837, one in the original style and another with the "rays" omitted from the Reverse, and they were never restored. In 1883 there was an entire change in the device of this coin and two varieties were issued. On the Obverse of both: A Liberty-head, facing left, coronet on forehead, inscribed *Liberty*, hair knotted, with single curl escaping down the neck, six stars fronting the face and seven above and behind the head, date below. Reverse: (No. 1) A Roman "V," encircled by two half wreaths of corn, cotton, wheat and tobacco, the ends joined beneath by a ribbon bow, around the border, as Legend—*United States of America*. *Exergue*, (in smaller "caps") *E Pluribus Unum*. Reverse, (No. 2) has the same "V" and wreath, the *Exergue* is changed to read "Cents," the Legend is as before with a "O" at each end, and *E Pluribus Unum* is transferred to the field above the wreath and between it and the legend.

UNAUTHORIZED, OR PRIVATE COINS.

A considerable number of coins have been issued, generally by companies or individuals connected with the gold mining interests, and though unauthorized by Congress all attained considerable local circulation, and in nearly every case fully reached the standard of weight and fineness claimed for them. The plentiful supply of legal money gradually drove these private pieces out of service; they now exist only as curiosities and as such we present *fac-similes* of some few.

The California Ten-Dollar Piece was a bright, clear coin, issued by Moffat & Co. for several years, our cut shows one of the first, 1849. The weight, fineness and value was identical with the United States Coinage.

Ten-Dollars of the Miner's Bank of San Francisco. Weight, 263½ grains; fineness, 865; value, \$9.87. No date.

Half-Eagle, N. G. & N., 1849, was fully up to its weight and contained no alloy other than that introduced by nature, the fineness therefor varied according to the virgin gold from which the pieces, was struck, ranging from 870 to 892 thousandths, with consequent value of from \$4.83 to \$4.98.

Mr. C. Bechtler at one time had his private mint at Rutherfordton, N. C., coining Half and Quarter-Eagles and One Dollar pieces, from gold mined in North Carolina and Georgia, which circulated extensively in the South and West. There are two series, of 5. 2½, and one dollar, professedly 20 carats fine and 150 grains to five dollars. These bear no date and were issued prior to 1834. To the reduction in National Coin, which took place that year, Mr. Bechter conformed and added the date to his devices. The pieces are stamped "C., (Carolina Gold) and the "G" (Georgia Gold). The establishment was abandoned in 1849.

California Half-Dollars of Gold, were issued in 1852 and 1853. The first variety of the "Half" was round, as here shown, another type was



Nickel Five Cent Pieces.



Nickel Three Cent Piece.

Copper Two Cent Piece.

UNITED STATES CENTS, COPPER.



octagon in shape; a Quarter-Dollar in gold was also circulated which was a reduced copy of the second "Half."

Mormon Twenty-Dollars, Gold. Issued by "President" Brigham Young, of Utah. There was a series of these coins; 20, 10, 5, and 2½ dollar pieces. The obverse shows a Mormon Mitre, an eye, and the Legend.—*Holiness to the Lord*. Reverse, two clasped hands, date in the field beneath and around the border "G. S. L. C. P. G." (*Great Salt Lake City Pure Gold*). "Twenty-Dollars." They passed for full face worth in Utah, but the intrinsic value varied from sixteen to eighteen dollars; the smaller denominations bearing relative proportions.

In 1858, "President" Young had a new die made for the Five-Dollar piece, and the coin was soon in circulation, on the obverse is the eagle behind a bee-hive, around it *Assay Office, Pure Gold*. Exergue "5. D." Reverse, a Lion, *couchant*, the date beneath, and the same *legend* as on the Obverse, in "Mormon" characters.

PATTERN PIECES.

Since the establishment of the U. S. Mints, there have been innumerable varieties of "pattern pieces" prepared, suggesting endless variations of almost every coin. Generally, there are a very few struck, mostly in copper, and then the dies are stored away with the other "experiments." Many of the patterns are very beautiful in design, such as these we illustrate, but change in National Coinage is not advisable even to gain elegance, on account of consequent confusion.

COPPER.

Two Cents. This coin first appeared in 1864, and was discontinued in 1873. The alloy was the same as the cent of the same period, and its weight 96 grains, "2 Cents," in two lines, is enclosed by two half wreaths of wheat, tied at the lower ends. Legend—"United States of America;" reverse similar in design to the nickel Five Cent pieces, only the legend is in a scroll, and the crossed arrows, upon which the shield rests, seems to support its centre instead of its base. The Two Cent piece of 1872 is scarce; that of 1873, being only in proof sets, is very scarce.

One Cent. There are four pattern cents bearing the date 1792, whether made in or designed to be used by the U. S. Mint is uncertain. They are all extremely rare. The largest, which exceeds the Half-Dollar in size, has on the Obverse a head of Liberty with flowing hair, which partly covers the bust on both sides, and faces toward the observer's right; the date in large figures, is immediately beneath the bust, and the Legend is *Liberty Parent of Science and Industry*. On the shoulder of the bust is the name of Birch; on the Reverse, in the centre, are the words "One Cent," surrounded by a circle; this is surrounded by a wreath, and it again by the Legend *United States of America*.

The second in size is a trifle less in diameter than the Half-Dollar. Obverse: A naked bust of Liberty, facing right, with the hair confined by a band and knot, beneath it "1792," above it "Liberty." Reverse: An eagle, his wings raised, standing on a section of a globe, facing right; Legend—*United States of America*. Only two of these are now known, one of them being in the Mint Cabinet.

The small pattern cents are about the diameter of the present Quarter-Dollar, the only difference between them is that one of them has a plug of silver in the centre. They are both from the same dies. Obverse: Head of Liberty with flowing hair, looking toward the right; date, 1792 under the bust. Legend—*Liberty Parent of Science and Industry*; Re-

verse, "One Cent" in a wreath, and Legend *United States of America*; at the base, $\frac{1}{100}$.

But it was not until the succeeding year, 1793, that the operations of the Mint were productive of much relief to the community in the matter of a circulating medium. Only the copper pieces were made this year. Of the cent there were three distinct styles and several varieties of dies of both Obverse and Reverse.

1. Chain Cents. These have a bust with flowing hair, looking right, with the date below and word "Liberty" above it; on the Reverse side, in the centre, is "One Cent," with " $\frac{1}{100}$ " below it enclosed in an endless chain of fifteen links, typifying the number of States then in the Union. The Legend is *United States of America* in all excepting one die, which reads *United States of Ameri*, the engraver evidently not having room to complete the word. This being quite scarce is highly prized by some collectors of cents. The edges have in four sections alternately a vine and several bars.

2. Wreath Cents. Obverse, a bust with disheveled hair flowing freely, beneath it a sprig, in most cases of three figs or olive leaves; in a very rare variety it is of shamrock. The Reverse has two half wreaths, fastened by a ribbon at the bottom, the $\frac{1}{100}$ below and Legend at the last; both sides have a beaded circle around the edge. Many Wreath Cents have the vine and bars; but one variety has the words "One Hundred for a Dollar" on the edge.

3. Liberty Cap Cent. These are larger in diameter, and are all lettered on the edge "One Hundred for a Dollar." The letters on the Obverse and Reverse are larger than either of the preceding, and the beaded circles on the edges are more bold and striking than in the last. On the Obverse the flowing hair bust has a Liberty cap on a pole extending across and behind it.

In its general character, the Cent of 1794 resembles the Liberty Cap Cent of 1793. It is slightly thicker and proportionately smaller in diameter. Instead of the beaded border, it has a serrated milling on both sides. Many dies were used during the year, whose slight variations have afforded a study to coin collectors. One of them resembles its predecessor in date almost exactly. Two others differ only in a slight degree. In others the letters and figures vary in size, position, etc., as also do the bust, cap, pole, different parts of the half wreaths and their connecting ribbon. Some of them approach in style the Cent of 1795 and one is its exact counterpart. The essential difference between the main issues of 1794 and 1795 being that in the latter year the two or more adjoining hairs appear to be plaited together just before the termination. These varieties are hence sometimes called the "Pli:æ." The lower combination, or plait, also makes less of a hook at the end in the 1795's.

On the Reverse the most notable differences are, in one the absence of a dividing line in the fraction, and in another a ring of eighty-nine minute stars arranged around the periphery, some of them more or less obliterated by the milling. Both of these varieties are quite rare. We have seen three only of each.

Of the Cent and Half-Cent of 1795 we have the lettered and the unlettered edge variety. The latter are lightest in weight, in accordance with a law changing the standard for the future. In a few cabinets is found a cent, bearing date of 1795, that is wholly different in artistic make from all other Cents; the hair is much finer and brushed out nearly straight; the lowest lock, however, is shaped like the letter S laid on its side; the profile and high cheek bones suggest those of an Indian. Some people imagine a resemblance to the portrait of Thomas Jefferson, hence it is popularly known as the "Jefferson Head Cent." The execution of

the Reverse is equally distinguishing; the ribbon bow has three instead of two turns, the leaves are longer, the berries smaller and more numerous, and the stems finer than in any other United States Cent. Its origin is a mystery, some believe it to have been a pattern, while others with more probability assign it to a counterfeiter. At all events it is sufficiently rare now to bring a good price; one hundred and forty-five dollars has been paid for the best specimen known to the large body of collectors.

The Cents of this year, with lettered edges, are rarer than those without the lettering. They made a Liberty-Cap Cent in 1796. There was also made a new style of Obverse during this year, which also was used in 1797 and 1798. For the first time the bust is draped. A fillet on the back of head is revealed by its bow, but the hairs generally end in curls, one on the cheek, two on the neck and several others behind. The liberty-cap is omitted, as is the lettering on the edge, never to reappear on the American Cent.

Both varieties of the Cent of 1796 are not rare, one about as plentiful as the other. But in an uncirculated condition, the liberty-cap is much less seldom seen than the other and will command about double the price.

In 1797 no change to remark.

In the year 1798 a slight change was made in the Obverse of the Cent, giving some of the curls a different termination from those of 1796, 1797, and the early part of 1798. The latter device was continued each year, until and including 1807. The Reverse remained unchanged until the same time, excepting some slight variations, probably unintentional, if not positive mistakes. For instance, in 1797 and 1802 we find some without stems to the wreaths, and in one case only one stem. In 1801 and 1802 some have $\frac{1}{100}$ instead of the fraction $\frac{1}{10}$. In addition to this error, a variety of the Cent of 1802 has "linited," instead of "United." In 1796 we have in one instance "Liberty," instead of "Liberty."

In the changes made in 1808 an entirely new head was designed, facing left. Seven stars are to the left and six to the right. The head has a band tied across it, inscribed with the word *Liberty*, and the hair is curled gracefully below the bands on the Reverse. There is but one wreath, with the ends tied together, entirely encircling the words "One Cent," in two lines, with a point between them and the line below. This style continued until the year 1814, inclusive. It was also adopted on the Half-Cent from 1809 to 1811, inclusive, when these coins were omitted until 1825. The same devices were then resumed until and including 1836, none being made in 1827 and 1830, and one variety in 1828 has but twelve stars.

In 1815 no Cents were made at the United States Mint. In 1816 we have a different Obverse. The head is broader than that of 1808, etc., and the hair is "put up" in a knot at the back part. The stars surround the bust at regular intervals. This style with some variations, was continued until the abolishment of the old copper cent in 1857, and the adoption of the nickel cent in its place; the most noticeable change being the following: In 1817 one variety has fifteen instead of thirteen stars. In 1838 the plain string that confines the hair is replaced by a beaded string, which was adopted thereafter. In 1839 there are five varieties, one of them is from an altered die of 1836.

A second has the head and Reverse of 1838. A third has a lock on the forehead, and from the simple expression, is sometimes called the "Silly Head." A fourth has also a remarkable expression and is called the "Booby Head." The line and point on the reverse are left off in this. The fifth variety has a smaller head, less curly and more old maidish in execution. The stars are smaller and the letters on the reverse are larger. This last was continued until 1857.

UNITED STATES CENTS, COPPER, Continued.



First Nickel U. S. Cent, 1856.

UNITED STATES HALF-CENTS, COPPER.



Overstrikes of Cents occurred in 1798 over 1797, 1799 over 1798, 1800 over 1799, 1807 over 1806, 1810 over 1809, 1811 over 1810, 1819 over 1818, 1820 over 1819, 1823 and 1824 both over 1822, and 1839 over 1836. In the Half-Cent series, we have 1802 over 1800, and 1808 over 1807.

The most valuable Cents are about in the following order: 1795 Jefferson head, 1799, 1804, 1793, 1809, 1811, 1806, 1796, 1795, 1823. A fine Jefferson head has sold for \$145. But fine cents of common dates often bring large prices. The sale of Mortimer McKenzie, in 1869, was most successful, 88 cents realizing \$1295.

A really fine set of Cents is worth \$300 to \$500, a fine set of Half-Cents, about \$200.

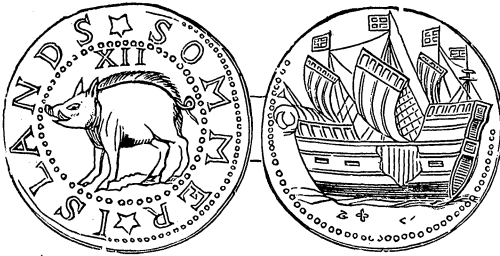
In 1856 the Cent was made of an alloy of Copper 88 per cent. and nickel 12 per cent. The device was an eagle *volant* with the usual Legend—*United States of America*, and date below the device. Reverse: Two half wreaths of cereals enclosing the words "One Cent." It weighed 72 grains. In 1859 the eagle was displaced by an Indian Head, with a crown of feathers fastened by a band inscribed *Liberty*. On the Reverse the cereal wreath was displaced by a wreath of laurel. In 1860 the Reverse had a wreath of oak with a small shield separating the ends at the top. There has been no change in the designs of either side since 1860, but the alloy was changed in 1864 to copper 85 per cent., zinc and tin each 2½ per cent., and the weight to 48 grains.

Half-Cent. Of the Half-Cents of 1793 there were several dies, but only one variety. They have Liberty-Caps like the Cent, but the bust faces towards the left, and the hair is confined by a fillet from the front and around the head; the edge is lettered "Two Hundred for a Dollar." The Half-Cent of 1794 is like the Cent of that year, Liberty-Cap facing right, lettered edge same as 1793, there were several dies varying slightly, the differences not of much interest, of 1795 are two varieties, lettered and unlettered edge, the latter is lightest in weight, in accordance with a law changing the standard weight for the future. Thick planchet, lettered edge is the rarest of the two, the 1796 Half-Cent is the rarest of all the Half-Cents and a fine piece is worth over Twenty Dollars, 1797 is like the last, not very rare. We find one of this year with lettered edge, thin planchet, which in fine condition is very rare. 1798 and 1799 none were coined, but in 1800 the Half-Cent appears but changed in design similar to that of the Cent and the design was continued to 1808 inclusive, none were coined in 1801. The Half-Cent of 1802 in a fine condition is worth a large premium, in 1809 the design was changed to that of the Cent, and coined to 1811 inclusive, when coinage was suspended until 1825, the same devices were used until 1836 inclusive, none were coined in 1827 and 1830, in 1828 one variety has but twelve stars. They again were coined in 1840 with the same pattern of the Cent of that year and continued without intermission until 1857 inclusive when their coinage was discontinued and none have been coined since.

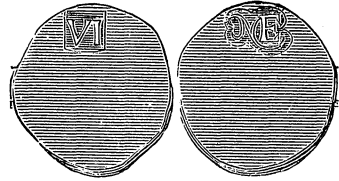
COLONIAL COINS.

The brass pieces of money, known as the "Sommer Island" pieces, were undoubtedly the earliest coins ever struck for America. Their date and the history of the coinage is not known, although there is reason to believe that they were current about the year 1616. John Smith, Governor of Virginia, in his history relates that Sir George Somers was ship-wrecked upon the Bermudas, or Sommer Islands, in 1612, and that four years later Daniel Tucker arrived as governor of these Islands. Smith adds that they found a certain kind of brass money in circulation with a "hogge" on one side. It appears that the islands were infested with these brutes. The

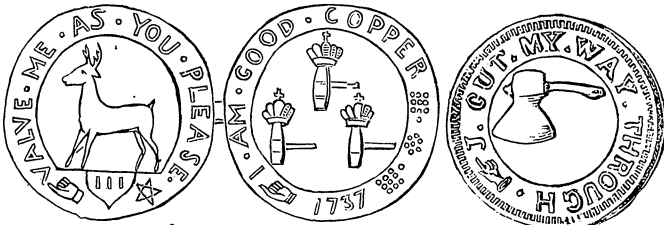
COLONIAL AND CONTINENTAL COINS.



"Sommer Islands" Brass.



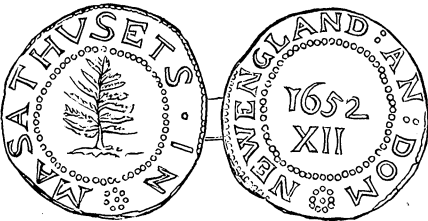
New England Sixpence.



"Granby" or "Higley" Coppers.



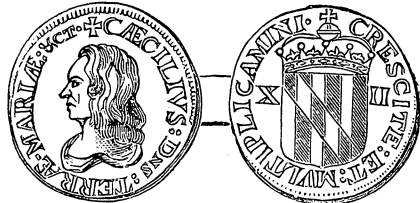
"Chalmer's" Shilling.



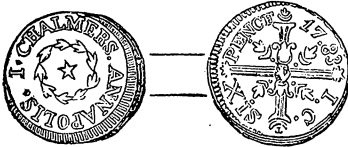
Pine Tree Shilling.



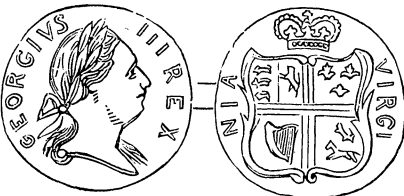
"I. Chalmer's" Three-Pence.



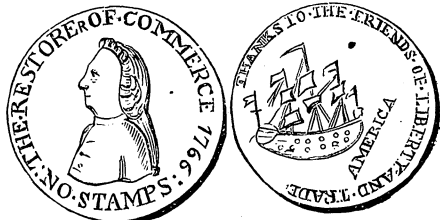
Lord Baltimore Shilling.



I. Chalmer's Six Pence.



Virginia Half Penny.



The Pitt Token.

Sommer Island Shilling has on one side a hog in the centre with XII above, and both are surrounded with a beaded circle; exterior to and around the latter is the Legend—*Sommer Island*. On the Reverse side is a ship, with canvas spread and a flag on each of her mast-heads; a beaded circle surrounds the exterior of both sides. The Sommer Island Sixpence is about half the size of the Shilling, and an exact counterpart, only that VI instead of XII surmounts the hog. Only three of the Shillings and one Sixpence are known; the former has been imitated.

The New England Shilling, Sixpence, and Threepence, were the first silver coins made in America. They were simple thin planchets of silver, having N E stamped into one side, and XII, VI or III stamped into the other side. The authority for the coinage was given in the year 1652. It was shortly after followed by an emission of the Pine Tree money of the same denomination, and the Oak Tree money, which latter also includes a Twopence. On the Obverse side is a Pine or Oak Tree in the centre, around this a beaded circle; Legend, *Masathvsets in*; on the exterior is another beaded circle. On the Reverse, "1652, XII" surrounded by two beaded circles, and between them "New England: An: Dom." Although they were coined for thirty years they all seem to bear the same date, viz., 1652.

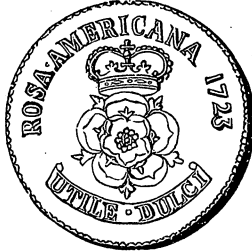
Copper Coins. The Granby or Higley Coppers are thought to be the first made in America. They were made by a John Higley, at the town of Granby in Connecticut, from 1737 to 1739, inclusive. There are three different varieties of this coin. Their Obverses are similar: A deer standing; below him a hand, a star, and III; around him is the Legend inclosed in two circles—*Value me as you please*. The Reverse of one variety has three hammers, crowned; around them in the circles "Connecticut," a star and 1737. The second Reverse has three hammers crowned, and the Legend—*I am Good Copper*, a hand, some dots fancifully arranged, and 1737. The third variety has a broad-axe and the Legend *I Cut my Way Through*; a few also have date 1739. All these varieties of the Granby Copper are quite rare, and when in a satisfactory condition they bring a high price. It is alleged that the fineness of the quality of the copper made them sought after as an alloy of gold, and their use in this way may, in part, account for their present great scarcity.

Among the early American Colonials, the money of Maryland under the Proprietorship of Cecil the Second, Lord Baltimore, should not be omitted. Tobacco had been a common medium of exchange; furs were also made use of to some extent, also powder and shot. On one occasion his lordship's cattle were given to some of the soldiers, who had become mutinous for their pay. At a subsequent time a tax was levied upon the people of several of the counties for a particular purpose. To obviate the inconvenience of these media of exchange, the dies for a silver coinage of Shillings, Sixpence, and Groats, were prepared in London. A limited number of each was struck, and they are all now rare—the Groats much the most so. They each have a bust of Lord Baltimore, draped, looking toward the observer's left. Legend—*Cæcilivs: Dns: Terra Mariæ*: etc. Reverse; a lozenge shield, surmounted by a crown, and dividing the numerals XII., VI. and IV.; Legend—*Crescite: et: Multiplicamini*.

There is also in existence a copper piece, supposed to be unique, and evidently a penny. One side has a similar design with the silver pieces. The Reverse has a ducal coronet with two pennants flying. Legend—*Denarium: Terra Mariæ*.

In the year 1783 a goldsmith of Annapolis, Maryland, issued silver tokens of three denominations: Shillings, Sixpence and Threepence. The Shilling has two hands clasped within a wreath. Legend—*I Chalmers Annapolis*. Reverse: A circle is divided by a horizontal bar; above it is

COLONIAL AND CONTINENTAL COINS.

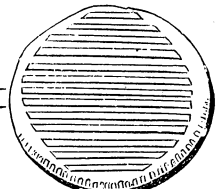


Mark Newby Copper.

"Rosa Americana" Pennies.



Carolina Elephant.



French, Louisiana Coppers.

U. S. A. Bar Cent.



New York Lemmas Columbia.

"Non Dependens Status."

a serpent, below it are two doves vis-a-vis, holding a branch in their beaks. Legend—*One Shilling*, 1783. The Sixpence has a five pointed star within a wreath. Legend—*I Chalmers. Annapolis*. Reverse: A long cross, two arms terminating in stars and two in crescents, a leaf in each angle. Legend—*I. C. Sixpence*, 1783. The Threepence has two hands clasped within a wreath. Legend—*I. Chalmers. Annap's*. Reverse: A branch encircled by a wreath. Legend—*Three Pence*, 1783. The Shilling is rather common; a good one brings three dollars. The Sixpence is rare and sells from Six to Ten Dollars when fine. The Groat is scarce and worth Eight or Ten Dollars.

Another private token in silver is sometimes called the Baltimore Town Piece. It has a head facing left in a circle. Legend—*Baltimore Town, July 4, 1790*. Reverse: "Three Pence," within a circle, underscored. Legend—*Standish Barry*. The piece brings Eight Dollars and more.

In 1682, the colonial legislature of New Jersey passed a law legalizing a kind of copper money brought from Ireland by a settler named Mark Newby. There were two sizes, bearing different legends on the Reverse. On their Obverse, King Charles the First, in the character of King David appears kneeling and playing upon a harp. Above the harp is a crown with a piece of brass inserted into it. Legend—*Floreat Rex*. The larger piece has on the Reverse, St. Patrick standing, holding a trefoil or shamrock in his right hand and a crozier in his left. Several people are around him, apparently to receive his blessing. At his left is a shield with the coat of arms of Dublin. Legend—*Ecce Grex*.

The small coin has on its Reverse St. Patrick standing, in his left hand a double cross, the right is extended. Snakes and other reptiles are fleeing before him. At the right is a church. Legend—*Quiescat Plebs*. A few of the smaller size are found in silver. But in either metal they are very scarce, and usually they are badly worn by circulation.

A token much prized by collectors is known as the Carolina Elephant. The Obverse is from a rather common English token known now as the London Elephant. The animal is standing with his head down. There is no legend. Reverse: "God: preserve: Carolina: and the Lords: Proprietors 1694." This is in six lines. One variety spells one word Proprietors, and is a great rarity.

There is also a New England Elephant. Obverse from the same die as the last London piece. Reverse: "God: Preserve: New: England: 1694," in five lines. Only two or three of these are known at the present time. A very fine one sold in the Mickley collection in 1867 for \$235.00. William S. Appleton, of Boston, was the purchaser.

An interesting medalet that passed as money among the colonists is known as the Pitt token. A bust of the orator is circumscribed with the Legend—*The Restorer of Commerce 1766: No Stamps*. The other side has a ship with canvas spread and five flags flying, sailing towards the observer's right; she is about striking on the word "America," which is placed in a straight line in the right field. Legend—*Thanks to the Friends of Liberty and Trade*. The piece brings from Twenty-Five Cents to Five or Six Dollars, according to condition.

The needs of the colonists for a circulating medium was met in 1722-23 by the issue of the *Rosa Americana* money. A man named William Wood obtained patents for coining Irish and American tokens. Both of them, however, were much used in the latter country. The Rosa's are in a composition according to the terms of the patent, of silver, brass and spelter. The largest piece, usually called the penny, has a head of George I., looking to the right, laureated. Legend—*Georgivs: D: G: Mag: Bri: Fra: et: Hib: Rex*. Reverse; a full-blown rose (in some cases surmounted with a crown.) Legend—"*Rosa Americana, 1722*" (or 1723.) On a scroll below is

COLONIAL AND CONTINENTAL COINS.



A "Nova Eborac."

New York "Excelsior" Copper.



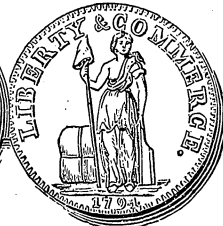
N. Y. Washington Cent.

George Clinton Copper.

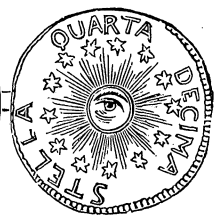


The Mott Token.

Erasher's Doubloon.



Talbot Allum and Lee Tokens.



Vermont Coppers.

the sentiment "Utile Dulci." One variety is without the scroll. The Half-penny is similar; a few are found with the date 1724. The Farthing is also similar. The words *Utile Dulci* are never found on the uncrowned Halfpence and Farthings. Fine specimens of the Rosa's bring from Five to Ten Dollars each. The rarer varieties, of course, much more.

An extremely rare *Rosa Americana* of the largest size exists, of the date 1738. One of them is said to be in the British Museum. Another was sold from the collection of Dr. Chas. Clay, of Manchester, England, in New York City, in the year 1871, for \$190. Obverse, laureated bust of George II, "Georgivs II., D. G. Rex." Reverse; rose branch with seven leaves, a full-blown rose and a bud crowned; "*Rosa Americana, 1733.*" "*Utile Dulci,*" on a scroll, beneath the rose.

We sometimes meet with a copper coin something smaller in diameter and not so thick as the old U. S. Cent, having the following characters: Obverse, two L's crossed under a crown, Legend—*Sit Nomen Domini Benedictum*. Reverse: "Colonies Francoises 1721 H." Sometimes the date is 1722. The piece tells its own story, being issued during the minority of Louis XV by the French Government for its Colonies. As Louisiana was one of these, it probably circulated there, and is accordingly classed among American Colonials.

Another considerably heavier copper, engrailed on the edge was issued by the same government in the year 1767. Obverse: Two flambeaux, crossed and tied together. Legend—*Colonies Francoises L. XV*. Reverse: Three fleur-de-lis under a crown, are encircled by two half-wreaths fastened by their stems. Legend—*Sit Nomen Domini Benedictum 1767*.

The majority of those now seen have had the three fleur-de-lis obliterated by the letters R F stamped upon them. This, it is believed, was done by order of the Republican Government after its establishment.

The well-known Virginia Half-Pennies seem to have been very plentiful. A number of different dies were used. A laureated bust of George the Third is surrounded, as on the English Halfpenny, with his title "Georgivs. III. Rex." The Reverse has an ornamental and crowned shield, emblazoned quarterly: 1, England empaling Scotland; 2, France; 3, Ireland; 4, the electoral dominions. Legend—*Virginia*. Date, 1773. One variety is so much larger than the others as sometimes to be called the penny, but it is not nearly large enough.

A similar devise, dated 1774, has been found in silver, and is known as the Virginia Shilling. It is possible that a coinage of Shillings for Virginia was intended at this time, of which the above was a pattern. However this may have been, the coin is of great rarity, probably less than half a dozen in all are known to coin collectors of the present day.

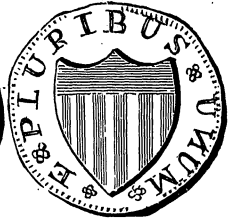
A very rare if not unique piece, whose history is not known, is called the "Non Dependens Status," from the Legend on the Obverse. This Legend surrounds a draped bust, facing right, the hair falling on the shoulder. Reverse: an Indian in a tunic of feathers, facing left, seated on a globe. In his right hand is a bunch of tobacco; his left rests upon a shield. Legend—*America*. Date, 1778. Judging by the copy that has been made of this piece, which is said to have been engraved only, it must be a fine design handsomely executed.

The Bar Cent is believed to have been made in England, in the year 1785, and sent over to New York for circulation in America. It has the monogram U. S. A. in large Roman letters. In one variety the S is over the other letters, and in another the S is over the U, and the A over the S. The Reverse has thirteen parallel bars. A good Bar Cent can be had for Three or Four Dollars. Other pieces made probably in this country, but not authorized, that were intended for the needs of the New York colonists, will now be described.

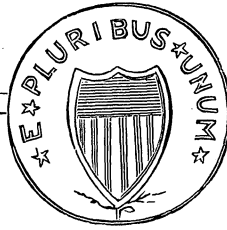
COLONIAL AND CONTINENTAL COINS.



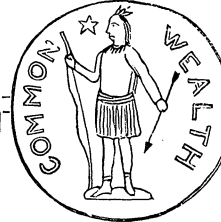
Connecticut Copper.



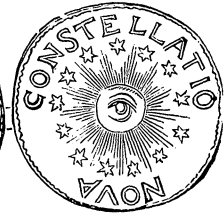
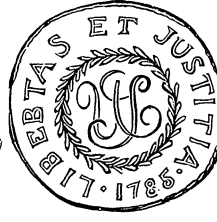
New Jersey Copper.



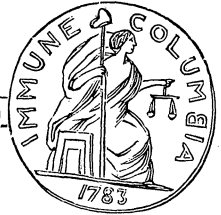
New Jersey "Nova Caesarea" Coppers.



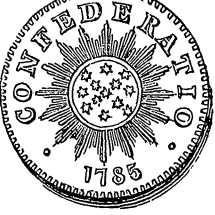
Massachusetts Cent.



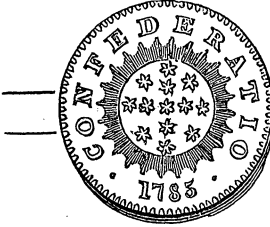
"Nova Constellatio."



"Immune Columbia."



"Inimica Tyrannis."



"Immunis Columbia."

The Nova Eboracs have a laureated head, facing right, with mailed bust, Legend—*Nova Eborac*. Reverse: the Goddess of Liberty, seated upon a globe; in one variety facing right, in three others facing left. She holds the liberty pole with a cap in the right hand, and an olive branch in the left. Beside her is the New York Shield. Legend—*Virt. et Lib.* Date, 1787. The common varieties bring, in good condition, about a Dollar.

The Excelsior Coppers have the coat of arms of the State of New York, with the word "Excelsior" in the exergue. Reverse: an eagle displayed; on the breast a shield *argent*; in one talon a bundle of arrows, in the other an olive branch and thirteen stars about his head. Date, 1787. Two varieties; in good condition, Fifteen to Twenty Dollars.

The New York Washington Cent has a bust with wig, and with military draping, face right. Legend—*Non vi virtute vici*. Reverse, the Goddess of Liberty, seated, with liberty pole and scales of justice. Legend—*Neo Eboracensis*. Date, 1786.

The New York Immunis Columbia has the Goddess of Liberty, seated upon a globe, the scales in her left hand, and liberty pole, with cap and flag, in the right. Legend—*Immunis Columbia*. Date, 1787. Reverse: An eagle displayed, with arrows and olive branch in his talons. Legend—*E Pluribus Unum*.

The George Clinton Copper has the bust of Governor Clinton facing right, with Legend—*George Clinton*. Reverse: the State arms of New York, and in the exergue "1787 Excelsior." This last Reverse is found also combined with the Liber Natus, which has an Indian standing, facing left, with tomahawk in the right hand and bow in the left, a bundle of arrows also at his back. Legend—*Liber Natus Libertatem Defendo*. This latter Obverse is also found combined with another Reverse as follows: An eagle stands upon a section of the globe. Legend—*Neo Eboracus 1787 Excelsior*. The foregoing are very rare, excepting the Immunis Columbia, which sells in good condition for Five Dollars or more. The others, including the N. Y. Washington, bring from Twenty-five to more than a hundred dollars.

Brasher's Doubloon has the device, a sun rising from behind a range of mountains, in the foreground the sea, "Brasher" underneath, and a beaded circle around. Legend—*Nova Eboraca Columbia Excelsior*. Reverse: An eagle displayed with shield upon his breast, and arrows and olive branch in his talons, thirteen stars about his head. "E. B.," in an oval has been struck in his right wing. Legend—*Unum E Pluribus 1787*. Only about four of the gold pieces are known, one of them in the U. S. Mint cabinet.

The Mott tokens were issued by the Mott firm in N. Y. City, and are considered the first tradesmen's tokens coined in America. Device: A clock with an eagle perched upon the top. Legend—*Motts, N. Y. Importers, Dealers, Manufacturers of Gold and Silver Wares*. Reverse: An eagle with wings expanded, facing left; a shield is upon his breast, and the talons have arrows and olive branches respectively. Above is the date, 1789. Legend—*Chronometers, Clocks, Watches, Jewelry, Silver Ware*.

The Talbot, Allum & Lee tokens have as device a ship sailing towards the right. Above the ship "New York." Legend—*Talbot, Allum & Lee, One Cent*. Reverse: The Goddess of Liberty standing beside a bale of merchandise, her right hand supports the liberty staff with cap, her left rests upon a rudder. Legend—*Liberty and Commerce*. Date, 1794. On the edge "Payable at the store of."

In 1795 there was a slight variation, reading as follows on the Obverse: "At the store of Talbot, Allum & Lee, New York." On the edge, "We promise to pay the bearer One Cent." Of course the date was 1795.

WASHINGTON TOKENS.



"Unity States" Cent.



The "Double Head" Cent.



The "Large Eagle" Washington Cent.



The "Small Eagle" and Half-Penny.

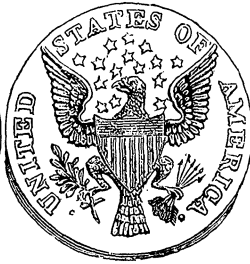


The "Naked Bust" Cent.



"Success" Token.

The "1792"



Cent and Half-Dollar.

The tokens of Mott and of Talbot, Allum & Lee are quite plentiful. That of the latter of 1795 is scarcer than the 1794. From one to two dollars will purchase any of the three, in fine condition.

In the year 1785 permission was given to Reuben Harman, Jr., of Vermont, by the Legislature of that State, to coin copper money. In the latter part of the year they first appeared, and were coined in 1786, 1787 and 1788. The first bore the following devices: A sun rising behind a wooded range of hills, beneath it a plow. Legend—*Vermontis Res Publica*, on one variety and *Vermontis Res Publica* on another. Reverse: An eye with a small circle, surrounded with twenty-six rays, one-half of each being longer than the alternate half. A circle of thirteen stars fills up the spaces between the end of the short rays and the long ones. Legend—*Stella Quarta Decima*.

In 1786 a similar style was adopted on one variety, but the legend reads *Vermontensium Res Publica*. On the Reverse the long rays terminate in sharp points, and the others are omitted.

Another variety was totally different. It has a laureated bust, facing right, with the Legend—*Auctori Vermon*. Reverse: The Goddess of Liberty seated, facing left, with staff and olive branch. Legend—*Inde et Lib*. This is called the Baby-head Vermont, and is valued at from 50 cents to \$2.00, according to condition.

The third variety has the head facing left, and is rather scarce.

In 1787 the head faces in two varieties toward the right, and in one towards the left; the legend on the Reverse of the latter is *Britannia*. It is common.

In all the issues of 1788 the head faces right. There are a number of varieties, some common and others rare.

There is a rare Vermont, bearing for Reverse an "Immune Columbia," exactly like that formerly described, excepting that it is dated 1785, and the legend reads *Immune Columbis*. In good condition it is worth Five Dollars.

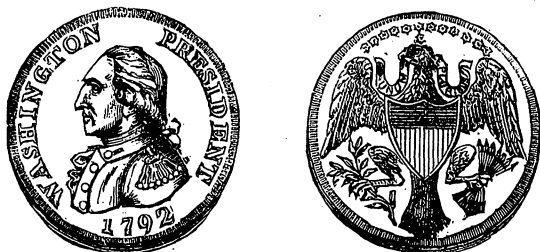
The Tory Cents are of two kinds; one of these has the Reverse "Immune Columbia," the other has that of the ordinary Vermont coppers of 1788. The Obverses are similar to the English half-pence of the period, having a laureated bust of George III, with his title, "Georgivs III., Rex."

Authority was given, in 1785, to Samuel Bishop, James Hillhouse, Joseph Hopkins and John Goodrich, to coin coppers for Connecticut. The dies were made by Abel Buel, of New Haven. They were coined in the period from 1785 to 1788 inclusive, and are similar to those of Vermont of 1788, excepting that the legend is *Auctori Conncc*. In each year different varieties have the head facing right in some cases and left in others. The most noteworthy of the Connecticut's are, the African Head of 1785, the "Et Lib Inde," and Hercules Head of 1786, the "Et Lib Inde," Governor Bradford Head, Horned Bust, Laughing Head, Connect, Auctobi, Auctopi, and Auctori of 1787; and the Conlec of 1788. The most of these are not rare and can usually be had in very good condition for a dollar or less.

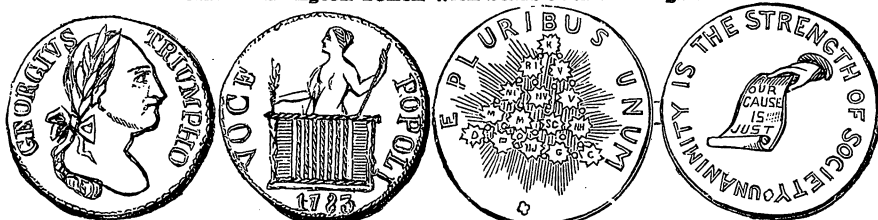
The coining of coppers for New Jersey was given by law to Walter Mould, Thomas Goadsby and Albion Cox. There were two Mints, one at Elizabethtown and one at Morristown. They have a horse head, usually facing right, with a plow below it, and the legend—*Nova Cæsarea*. Date in the exergue. Reverse: A shield with the motto around the border *E Pluribus Unum*. In ordinary condition the New Jersey can be had for from ten to fifty cents. The most popular varieties are:

Plow without coulter,	- - - - -	\$1.00 to 3.00
Plow with date under the beam,	- - - - -	\$100.00
Plow with Immune Columbia, 1786, for Obverse,	- - - - -	\$50.00

VISITOR'S GUIDE TO THE U. S. MINT.
COLONIAL AND CONTINENTAL COINS.



The Washington Token with Stars over the Eagle.



"Georgius Triumpho" Copper.

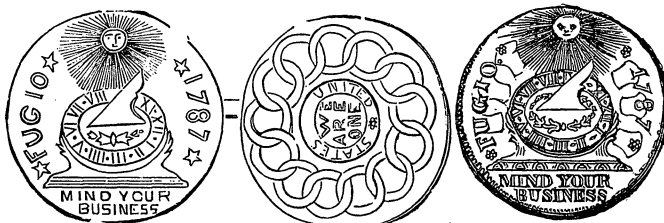
"Kentucky" Cent.



English Kentucky Tokens.



Continental Currency.



"Fugio" Cent.

Plow with Gen. Washington bust, " " - - -	\$150.00
E Pluribus Unum, - - - - -	\$2.00 to 4.00
Horse head facing left, - - - - -	1.00 to 5.00
With a fox or horse on the Reverse, - - - - -	1.00 to 4.00

Dr. E. Maris, of Philadelphia, has published a history of the coins of New Jersey, with a large phototype plate of the Obverses and Reverses of all known varieties. They are of the natural size and make 140 pictures.

Massachusetts coined Cents and Half-Cents, each dated 1787 and 1788. They are similar in design, having an Indian standing with a bow in his right and an arrow in his left hand. Legend—*Commonwealth*, separated by a five-pointed star. Reverse: An eagle displayed, on his breast a shield *argent*, six *pales gules*, a *chief azure*; on the chief the word "Cent" or "Half-Cent"; in the eagle's right talon is an olive branch, and in his left a bundle of arrows. Legend—*Massachusetts*. Date in the exergue. The Cent is worth a Dollar in fine condition, the Half-Cent twice as much as the Cent.

There are several pieces in silver, of patterns designed for the Colonies, which are of two sizes. They have an eye in the centre, surrounded with thirteen rays and thirteen stars between the points, similar to the Reverse of the Vermontensium pieces. Legend—*Nova Constellatio*. Reverse: A wreath encircles "U. S. 1000" on the large and "U. S. 500" on the smaller piece. Legend—*Libertas Justitia*, and the date, 1783, in the exergue. One variety of the smaller-sized piece is without date or legend on the Reverse. All are extremely rare or unique.

The copper Nova Constellatios are similar in design to the silver pieces above described. One variety has wedge-shaped blocks, pointing towards the centre, between each of the stars. Another has the Legend spelled "Nova Constelatio." Some varieties have, on the Reverse, Roman and others script letters in the centre (U. S.) but none have the denominational figures like the silver pieces. They have various dates, 1783, 1785 and 1786. The latter are exceedingly rare, the others are all common. Some rare combinations are, with "Immune Columbia" 1785 Reverse, worth Fifteen or Twenty Dollars, and the same with the wedge-shaped rays and "Immune Columbia" Reverse, lately sold for One Hundred Dollars.

Of the "Inimica Tyrannis" Coppers there are two slight variations in the Obverse. An Indian is standing before an altar with his right foot upon a crown. In his left hand is a bow, in the right an arrow, and a quiver full of arrows on his back, Legend—*Inimica Tyrannis Americana*. There are two Reverses. In each there is a cluster of thirteen stars in the centre, with a glory surrounding them, in one case having twenty-four and in the other sixteen rays. Legend—*Confederatio*. Date 1785. Both Obverses are combined with the first-named Reverse, and one of them with both Reverses. The Reverse "Confederatio," is also combined with a Reverse "Nova Constellatio" 1785, with the Gen. Washington head mentioned in the coins of New Jersey, with the "Immune Columbia" 1786, and with a Reverse similar to that on the Excelsior Cent described on former page, excepting that it is dated 1786.

The last-named die is also found with the Gen. Washington and with that, the N. J. shield, which is an Obverse to the "Immune Columbia" of 1786.

Washington Tokens. There are in existence a large number of copper and silver pieces having a bust of Washington on one side. Only those tokens that were issued for or were used as money will be described here, all others being properly medals or medalets.

The Unity States Cent has a bust of Washington, draped and facing left. Legend—*Washington and Independence 1783*. Reverse, "One Cent"

in two lines, enclosed by two olive branches, fastened at the bottom with a ribbon. Legend—*Unity States of America*. This is supposed to be of French origin.

A similar Obverse is found combined with a different Reverse, having Liberty seated looking left, with pole and cap on it in the left hand, and with an olive branch in the right hand, which is extended. Legend—*United States* above. There were two dies of this variety; one pair of them still exists in England, and proof-impressions are furnished from them, some in silver and others in copper; the latter has an engrailed line on the edge to distinguish it from original impressions.

Two other dies have smaller heads on their Obverses; they are known as the "Small Head Washington," those last previously described are known as the "Large Head Washington."

The Double Head Washington has a small head on both Obverse and Reverse. The former has the Legend—*Washington*; the latter the Legend—*One Cent*.

The Large Eagle Washington Cent has a bust of Washington in military costume, facing left, the hair tied in a queue. Date, 1791. Legend—*Washington President*. Reverse: a large eagle displayed, on his breast a shield *argent*, six *pales gules*; in his beak is a scroll bearing the motto, "E Pluribus Unum"; in his right talon is an olive branch, in the left a bundle of arrows; above the head are the words, "One Cent;" on the edge are the words, "United States of America."

The Small Eagle Washington Cent is precisely like the large Eagle Cent on the Obverse, excepting that the date is wanting. The Reverse has a smaller eagle than the last, displayed, with the wings upraised and the talons grasping the olive branch and arrows; a shield on the breast is similar to that on the large Eagle Cent excepting that it has a *Chief azure*. The words "One Cent" are above, and the date 1791, at the base; a circle of clouds extends from wing to wing of the eagle, and eight stars are about his head. The edge is lettered "United States of America."

The last described Obverse is found with another Reverse, which has a ship with canvas spread, sailing toward the light; above it is the Legend—*Halfpenny*; the date is 1793.

The Naked Bust Washington Cent has the undraped bust of Washington facing right, the hair tied with a fillet, date 1792. The Reverse is similar to the Small Eagle Cent, excepting that the date is wanting, also the clouds, and there are six instead of eight stars.

All the foregoing Washington pieces except the first-described are of English origin. The next are from dies supposed to have been made in Philadelphia, by Peter Getz, of Lancaster, Penna.

The 1792 Washington Cent and Half-Dollar resemble on the Obverse the large eagle Cent, excepting the date 1792 instead of 1791, and the legend which reads *G. Washington President I*. The Reverse resembles that of the small eagle Cent, excepting that there are fifteen stars instead of eight; the clouds are wanting and the body of the eagle is larger in the 1792 piece. When in copper this is called the "Cent;" when in silver the "Half-Dollar." They are larger in diameter than the other Washington Cents.

The next described pieces are of unknown origin.

The Washington Piece with stars over the eagle, resembles the large eagle Cent of 1791, excepting that on the Obverse the date is 1792, and the Reverse, in place of the words "One Cent," there is a single star over the head of the eagle, above which twelve similar stars form a curve reaching from wing to wing of the eagle. It is found in copper and silver; some specimens have the edge lettered "United States of America."

The following token is supposed to be of American origin.

A bust of Washington with queue, facing right. Legend—*George Washington*. Reverse: A liberty-cap in the centre, with rays radiating around it, every third ray being longer than the rest and separated from each other, fifteen stars arranged in a circle. Legend—*Success to the United States*. It is usually in brass, but rarely it is found in copper, and is of two sizes, the larger something larger than the early U. S. Quarters, the other a shade larger than the early Dimes.

A few English tokens, usually classed as Colonials, referring to this country, will now be mentioned.

The *Georgivs Triumpho* copper has a head laureated, facing right. Legend—*Georgivs Triumpho*. Reverse: Goddess of Liberty facing left, behind a frame of thirteen bars with a fleur-de-lis in each corner. An olive branch is held in her right hand, a staff of liberty in her left. Legend—*Voce Popoli*. Date 1783. Worth a Dollar in fine condition.

The North American token has a female seated, facing left, with a harp. Legend—*North American Token*. Date 1781. Reverse: A ship sailing to the left. Legend—*Commerce*. Worth fifty cents when fine.

The *Auctori Plebis* has a bust, laureated and draped, facing left. Legend—*Auctori: Plebis*. Reverse: A female seated, with her left arm resting on an anchor, the right on a globe; at her feet is a lion. Legend—*Indep. et liber*. Date 1787. Worth One to Three Dollar.

The Franklin Press has an old-fashioned printing press and Legend—*Sic oritur doctrina surgetque libertas*. Date 1794. Reverse: Payable at the Franklin Press, London, in five straight lines. Worth fifty cents in fine condition.

A popular token, known as the Kentucky Cent, has a hand holding a scroll inscribed "Our Cause is Just." Legend—*Unanimity is the Strength of Society*. Reverse: A radiant pyramid, triangular in shape, of fifteen stars united by rings, each star having placed in it an initial of a State, Kentucky being at the top. Legend—*E Pluribus Unum*. It is often found considerably circulated, showing it to have been used, and sells from fifty cents to several dollars, according to condition.

Two other Kentucky tokens of beautiful execution, which do not appear to have been circulated, are sometimes brought over from England. They have the same Obverse, which has for a device a female, personating Hope, bending before an anchor and presenting two children to a female who stands with a liberty-cap in the right hand and with the other outstretched to receive them. Legend—*British Settlement Kentucky*. Date 1796. Reverse: (No. 1) Britannia with bowed head, holding a spear inverted; a fasces, broken sword and scales of justice lie at her feet; before her is a cap of liberty. Legend—*Payable by P. P. P. Myddleton*. Reverse; (No. 2) "Copper Company of Upper Canada," in four straight lines within a wreath, is surrounded with the Legend—*One Half Penny*. Both of these tokens are found in copper with the first described Reverse. It is sometimes found in silver.

The Continental Currency Piece has thirteen rings linked together, each bearing the name of a State. Legend—*American Congress*, on a label around the centre. In the centre are the words "We are One." Between the legend and rings a circle of rays are seen. Reverse: A sun-dial with the sun shining upon it on the left side. Legend—*Continental Currency*. Date 1776 below. "Mind Your Business" below the dial; "Fugio" near the sun and under "Continental."

These pieces are as large as a silver dollar and are usually in tin, but a few are known in silver and one in brass. One variety has currency spelt with one "r" and another, which is rare, has "E. G., Fecit," at

fect condition, seventy-five cents to one dollar. A number made, varying slightly. In some cases the word "S
"United."

A number of impressions in silver and also in alloy of from original dies, were struck a few years ago.

There are also a few pieces in existence that differ from those authorized by the resolution of Congress. One has the words "We are One" omitted and "American Congress" in place of "United States." Some of them have an eye in all of them rays between the motto and the rings. They all would command high price especially so, but have rarely passed hands.



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Gold.	Coin.	LEGAL WEIGHT GRAINS.	FINESS.	GRAINS OF PURE GOLD.	METAL VALUE.
AUSTRIA.	Quadr'pl Ducat.	215.40	986.1	212.4	\$9.12
	1 "	53.85	986.1	53.1	2.28
	8 Florins.	99.56	900.	89.6	3.85
	4 Florins.	49.78	900.	44.8	1.92
ARGENTINE REPUBLIC.	1 Argentine.	124.45	900.	112.	4.82
	½ "	62.22	900.	55.9	2.41
BELGIUM.	100 Francs.	497.80	900.	4.39	18.89
	50 "	248.90	900.	224.	9.64
	20 "	99.56	900.	89.6	3.85
	10 "	49.78	900.	44.8	1.92
	5 "	24.89	900.	22.4	.96
BOLIVIA.	10 Bolivianos.	248.90	900.	224.	9.64
	5 "	124.45	900.	112.	4.82
	2 "	49.78	900.	44.8	1.92
BRAZIL.	20 Milreis.	276.63	916.6	253.5	10.92
	10 "	138.31	916.6	126.7	5.45
	5 "	69.16	916.6	63.3	2.72
CENTRAL AMERICA.	Half Onza.	254.	875.	222.2	9.57
	¼ "	127.	875.	111.1	4.78
	⅛ "	63.5	875.	55.5	2.39
	1-16 "	31.7	875.	27.7	1.19
	Ten Pasos.	294.	875.	257.2	11.07
	5 "	147.	875.	128.6	5.53
CHILI.	2 "	58.8	875.	51.4	4.21
	1 "	29.4	875.	25.7	1.10
	Condor.	235.35	900.	211.8	9.11
	Doubleon.	117.67	900.	105.9	4.51
	Eseudo. Peso.	47.07 23.53	900. 900.	42.3 21.1	1.82 .91
DENMARK.	20 Crowns (<i>Kroner</i> .)	138.28	900.	124.4	5.35
	10 "	69.14	900.	62.2	2.67
EGYPT.	100 Piasters.	131.18	875.	114.7	4.94
	50 "	65.59	875.	57.3	2.47
	25 "	32.79	875.	28.6	1.23
ENGLAND.	Sovereign,	123.27	916.6	113.	4.86
	½ "	61.63	916.6	56.5	2.43
FRANCE.	100 Francs.	497.80	900.	448.	19.28
	50 "	248.90	900.	224.	9.64
	20 "	99.56	900.	89.6	3.85
	10 "	49.78	900.	44.8	1.92
	5 "	24.89	900.	22.4	.96
GERMANY.	20 Marks.	122.91	900.	110.6	4.75
	10 "	61.45	900.	55.3	2.37
	5 "	30.72	900.	27.6	1.18
GREECE.	100 Drachmas.	497.80	900.	448.	\$19.28
	50 "	248.90	900.	224.	9.64
	20 "	99.56	900.	89.6	3.85
	10 "	49.78	900.	44.8	1.92
	5 "	24.89	900.	22.4	.96
HAYTI.	10 Gourdes.	248.90	900.	224.	9.64
	5 "	124.45	900.	112.	4.82
	2 "	49.78	900.	44.8	1.92
	1 "	24.89	900.	22.4	.96

	2½ "	65.28	875
	1 "	26.11	900
NETHERLANDS.	10 Florins.	103.7	900
NORWAY.	20 Crowns.	138.28	900
	10 "	69.14	900
PERU.	5 Incas.	89.65	900
	2 "	35.86	900
	1 "	17.93	900
PORTUGAL.	1 Coroa.	273.68	910
	½ "	136.84	910
	1-5 "	54.73	910
	1-10 "	27.36	910
RUSSIA.	Half Imperial.	100.98	910
	3 Roubles.	60.59	910
SPAIN.	100 Pesetas.	497.8	900
	50 "	248.9	900
	20 "	99.56	900
	10 "	49.78	900
	5 "	24.89	900
SWEDEN.	Same as Denmark.		
SWITZERLAND.	Same as France.		
TURKEY.	500 Piasters.	556.78	910
	250 "	278.39	910
	100 "	111.35	910
	50 "	55.67	910
	25 "	27.84	910



Owing to the frequent variations in the metal value of Silver, it is here computed at U. S. value, 1000 fine, \$1.00 per ounce.

Silver.	Coin.	LEGAL WEIGHT.	FINENESS.	PURE SILVER.	METAL VALUE.	CURRENT VALUE.
AUSTRIA.	2 Florins.	381.03	900.	342.92	.71	\$79.6
	1 "	190.51	900.	171.46	.35	.39.8
	2 Union Thaler.	571.54	900.	514.38	1.07	1.19.4
ARGENTINE REPUBLIC.	1 " "	285.77	900.	257.19	.53	.59.7
	1 Peso.	385.8	900.	347.2	.72	.96.5
	½ "	192.9	900.	173.6	.36	.48.2
	1-5 "	77.16	900.	69.44	.14	.19.3
	1-10 "	38.58	900.	34.72	.07	.09.6
BELGIUM.	1-20 "	19.29	900.	17.36	.03	.04.8
	5 Francs.	385.8	900.	347.2	.72	.96.5
	2 "	154.32	835.	128.85	.26	.38.6
	1 "	77.16	835.	64.42	.13	.19.3
	50 Centimes,	38.58	835.	32.21	.06	.09.6
BOLIVIA.	20 "	15.43	835.	12.97	.02	.03.8
	½ Boliviano.	385.8	900.	347.2	.72	.80.6
	1 "	192.9	900.	173.6	.36	.40.3
	1 Peseta.	77.16	900.	69.44	.14	.16.1
	1 Real.	38.58	900.	34.72	.07	.08.
BRAZIL.	½ "	19.29	900.	17.36	.03	.04.
	2 Milreis.	385.8	900.	347.2	.72	1.09.2
	1 "	192.9	900.	173.6	.36	.54.6
	½ "	96.45	900.	86.8	.18	.27.3
CENTRAL AMERICA.	50 Centavos.	254.	750.	190.	.39	.50.
	25 "	127.	750.	95.	.19	.25.
	10 "	50.8	750.	38.1	.08	.10.
	5 "	25.4	750.	19.	.04	.05.
CHILI.	1 Peso.	385.8	900.	347.2	.72	.91.2
	50 Centavos.	192.9	900.	173.6	.36	.45.6
	20 "	77.16	900.	69.44	.14	.18.2
	10 "	38.58	900.	34.72	.07	.09.1
	5 "	19.29	900.	17.36	.03	.04.5
DENMARK.	2 Crown.	231.48	800.	185.18	.38	.53.6
	1 "	115.74	800.	92.59	.19	.26.8
	50 Oere.	77.16	600.	46.30	.09	.13.4
	40 "	61.72	600.	37.03	.07	.10.8
	25 "	37.34	600.	22.40	.04	.06.7
	10 "	22.37	400.	8.94	.01	.02.7
ECUADOR.	1. Peso.	385.8	900.	347.2	.72	.80.6
	10 Piasters.	192.9	750.	144.6	.30	.49.
	5 "	96.45	750.	72.3	.15	.24.5
	2½ "	48.22	750.	36.1	.07	.12.2
ENGLAND.	1 "	19.29	750.	14.43	.03	.04.9
	Crown.	436.36	925.	403.63	.84	1.21.6
	½ "	218.18	925.	201.81	.42	.60.8
	Florin.	174.54	925.	161.44	.33	.48.6
	Shilling.	87.27	925.	80.72	.16	.24.3
	Six-pence.	43.63	925.	40.36	.08	.12.1
	Four-pence.	29.09	925.	26.90	.05	.08.
	Three-pence.	21.81	925.	20.18	.04	.06.
	Two-pence.	14.54	925.	13.44	.02	.04.
	Penny.	7.27	925.	6.72	.01	.02.
FRANCE.	5 Francs.	385.8	900.	347.2	.72	.96.5
	2 "	154.32	835.	128.85	.26	.38.6
	1 "	77.16	835.	64.42	.13	.19.3
	50 Centimes.	38.58	835.	32.21	.06	.09.6
	20 "	15.43	835.	12.97	.02	.03.8
GERMANY.	5 Marks.	428.66	900.	385.79	.80	1.19.
	2 "	171.46	900.	154.31	.32	.57.6
	1 "	85.73	900.	77.15	.16	.23.8
	50 Pfennig.	42.86	900.	38.57	.08	.11.9
	20 "	17.14	900.	15.42	.03	.04.7
GREECE.	5 Drachmas.	385.8	900.	347.2	.72	.96.5
	2 "	154.32	835.	128.85	.26	.38.6

Metal value of Silver, it is here computed at U. S. value, 1000 fine, \$1.00 per ounce.

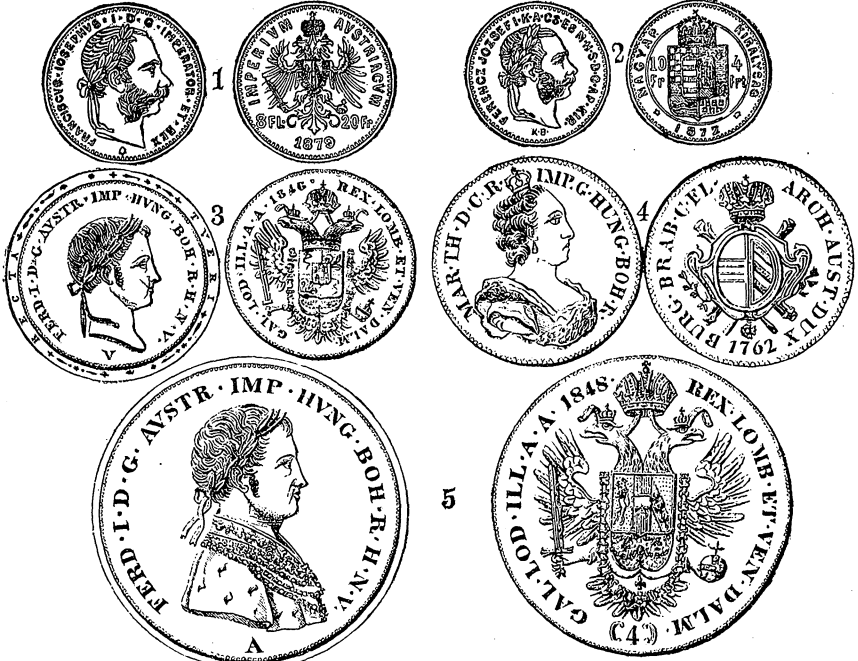
Silver.	Coin.	LEGAL WEIGHT.	FINENESS.	PURE SILVER.	METAL VALUE.	CURRENT VALUE.
GREECE—Continued.	1 Drachmas.	77.16	835.	64.42	.13	.19.3
	50 Lepta.	38.58	835.	32.21	.06	.09.6
	20 "	15.43	835.	12.97	.02	.07.7
HAYTI.	1 Gourde.	385.8	900.	347.2	.72	.96.5
	50 Centimes.	192.9	835.	161.1	.33	.48.2
	20 "	77.16	835.	64.42	.13	.19.3
	10 "	38.58	835.	32.21	.06	.09.6
	5 "	19.29	835.	16.10	.03	.04.8
INDIA.	1 Rupee.	180.	916.6	165.	.34	.38.3
	$\frac{1}{2}$ "	90.	916.6	82.5	.17	.19.1
	$\frac{1}{4}$ "	45.	916.6	41.2	.08	.09.5
	$\frac{1}{8}$ "	22.5	916.6	20.6	.04	.04.7
ITALY.	5 Lire.	385.8	900.	347.2	.72	.96.5
	2 "	154.32	835.	128.85	.26	.38.6
	1 "	77.16	835.	64.42	.13	.19.3
	50 Cent'simo.	38.58	835.	32.21	.06	.09.6
	20 "	15.43	835.	12.97	.02	.03.8
JAPAN.	1 Yen.	416.	900.	374.4	.78	.86.9
	50 Sen.	208.	900.	187.2	.39	.43.4
	20 "	83.20	900.	74.9	.15	.17.3
	10 "	41.6	900.	37.4	.07	.08.6
	5 "	20.8	900.	18.7	.03	.04.3
MEXICO.	1 Peso.	417.79	902.7	377.14	.78	.87.5
	50 Centavo.	208.89	902.7	188.57	.39	.43.7
	25 "	104.44	902.7	94.28	.19	.21.8
	10 "	41.78	902.7	37.71	.07	.08.7
	5 "	20.89	902.7	18.85	.03	.04.3
NETHERLANDS, (HOLLAND.)	2 $\frac{1}{2}$ Florin.	385.8	945.	364.5	.76	1.00.5
	1 "	154.32	945.	145.8	.30	.40.2
	50 Cents.	77.16	945.	72.9	.15	.20.1
NORWAY.	2 Crown.	231.48	800.	185.18	.38	.53.6
	1 "	115.74	800.	92.59	.19	.26.8
	24 Skillings.	92.59	800.	74.07	.15	.21.4
	15 "	77.16	600.	46.3	.09	.13.6
	12 "	61.72	600.	37.03	.07	.10.2
	3 "	22.37	400.	8.9	.01	.03.4
PERU.	1 Sol.	385.8	900.	347.2	.72	.80.6
	5 Pesetas.	385.8	900.	347.2	.72	.80.6
	1 "	77.16	900.	69.44	.14	.16.1
	1 Real.	38.58	900.	34.72	.07	.08.
PORTUGAL.	$\frac{1}{2}$ "	19.29	900.	17.36	.03	.04.
	500 Reis.	192.9	916.6	176.8	.36	.40.
	200 "	77.16	916.6	70.7	.14	.16.
	100 "	38.58	916.6	35.3	.07	.08.
	50 "	19.29	916.6	17.6	.03	.04.
RUSSIA.	1 Rouble.	319.92	868.	277.69	.57	.64.5
	$\frac{1}{2}$ "	159.96	868.	138.84	.28	.32.2
	$\frac{1}{4}$ "	79.98	868.	69.42	.14	.16.1
	1-5 "	63.98	868.	55.53	.11	.12.9
	1-10 "	31.99	868.	27.76	.05	.06.4
	1-20 "	15.99	868.	13.88	.02	.03.2
SPAIN.	5 Pesetas.	385.8	900.	347.2	.72	.96.5
	2 "	154.32	835.	128.85	.26	.38.6
SWEDEN. (See Denmark.)	1 "	77.16	835.	64.42	.13	.19.3
SWITZERLAND. (See France.)	50 Centimes.	38.58	835.	32.21	.06	.09.6
	20 "	15.43	835.	12.97	.02	.03.8
	20 Piasters.	371.21	830.	308.	.64	.88.
TURKEY.	10 "	185.60	830.	154.	.32	.44.
	5 "	92.80	830.	77.	.16	.22.
	2 "	37.12	830.	30.8	.06	.08.8
	1 "	18.56	830.	15.4	.03	.04.4
	$\frac{1}{2}$ "	9.28	830.	7.7	.01	.02.2
U. S. COLOMBIA.	1 Peso.	385.8	900.	347.2	.72	.80.6

THE TABLE OF OFFICIAL VALUE OF FOREIGN CURRENCY COINS and other data will sometimes be found at plate-valuations; this discrepancy arises from our gold for which the Foreign piece would and should be in trade, while the Table gives, as stated in the heading, the *official* amount for which they are to be received in actions.

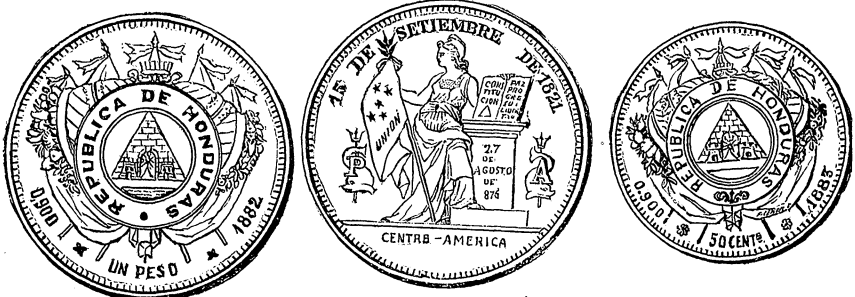
With the price a coin would bring as a curiosity under Governmental allowance or restriction, we have in this connection, our duty ends with giving the information attainable of their worth to the merchant.

The ancient Greek, Roman, Jewish and Mediæval coins and described on the concluding plates and pages are introduced as reminders of the collection in the Cabinet and they will be found deeply interesting and meriting reference or study.





AUSTRIA, GOLD. No. 1, Eight Florins, \$3.85; No. 2, Four Florins, \$1.92; Nos. 3 and 4, S veran d'Or m., \$.71; No. 5, Quadrup e Ducat, \$.12.



HONDURAS, SILVER. No. 1, One Peso, 87 cents; No. 2, Fifty Cents, 43 cents.



SIAM, SILVER. No. 1, Dollar, 95 cents; No. 2, Quarter Dollar, 23 cent.



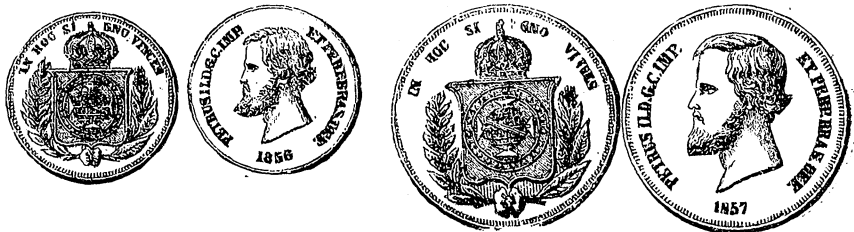
AUSTRIA, SILVER. No. 1, Double Vereins Thaler, \$1.19; No. 2, Two Florins, 79½ cents; No. 3, 1 Vereins Thaler, 59½ cents; Nos. 4 and 10, Twenty Kreuzers m., 8 cents; No. 5, Ten Kreuzers m., 3 cents; No. 6, ¼ Florin, 9 cents; Nos. 7 and 8, One Florin, 39½ cents; No. 9, Five Kreuzers, 1½ cents.



BOLIVIA. SILVER. No. 1, One Boliviana, 80½ cents; No. 2, Ten Cents, 08 cents; No. 3, Five Cents, 4 cents; No. 4, Twenty Cents, 16 cents; No. 5, Half Boliviana, 40 cents.



VENEZUELA. SILVER. No. 1, ½ Boliver, 72 cents; No. 2, Two Reals, 23 cents; No. 3, ½ Real, 7 cents; No. 4, 1 Real, 14 cents.



BRAZIL, GOLD. No. 1, Modiole, \$4.87; No. 2, Half Dobra, 6,400 Reis, \$3.69.



LIBERIA, SILVER. No. 1, Quarter Dollar; Nos. 2 and 3, Ten Cents. (Same as United States Coins.)



BELGIUM, SILVER. Nos. 1, 2, and 10, Five Francs, 72 cts.; Nos. 3 and 8, Two-and-a-half Francs, 36 cts.; No. 4, 1/4 Franc, 3 1/2 cts.; No. 5, Twenty Centimes, 2 1/2 cts.; No. 6, 1/2 Franc, 7 cts.; No. 7, Two Francs, 28 cts.; No. 9, One Franc, 14 cents.



CAMBODIA, SILVER. No. 1, Three Ticals, about \$1.80; No. 2, Five Francs, native, 72 cents; No. 3, Four Francs, 78 cents.



SERVIA, SILVER. No. 1, Two Dinar, about 33 cents; No. 2, One Dinar; No. 3, Piece of 50 Paras, about 20 cents.



CHILI, GOLD. Nos. 1, 5 and 7, Doubloons m., \$15.50; Nos. 2 and 3, Quarter Doubloons m., \$3.87; Nos. 4 and 8, Half Doubloons m., \$7.74; No. 6, $\frac{1}{2}$ Doubloon m., \$1.91.



CHINA, GOLD. Numbers 1 and 2, One Tael; Numbers 3, 5, 6 and 7, Half Tael; Number 4, $\frac{1}{4}$ Tael. No value can be placed on these coins, the purity of the metal varying with each issue.



CHINA, SILVER. Numbers 1, 2, 3, 4, 5 and 6, are "ingot" money, and valuation, except in each piece, is impossible. Number 7, Native Dollar, m. 68 cents; Number 8, Native Dollar, of private coinage, m. 84 cents; Number 9, Silver Tacl, m. 81.16.



DENMARK, GOLD. Nos. 1, 3, 8 and 10, Ducats m., \$2.20 : Nos. 2 and 6, Christian d'Or m., \$3.91 ; Nos. 4, 7 and 11, Double Fredk d'Or m., \$7.92 ; Nos. 5 and 13, Fredk d'Or m., \$3.95 ; No. 9, Half Christian d'Or, \$1.93 ; No. 12, Double Christian d'Or m., \$7.92.



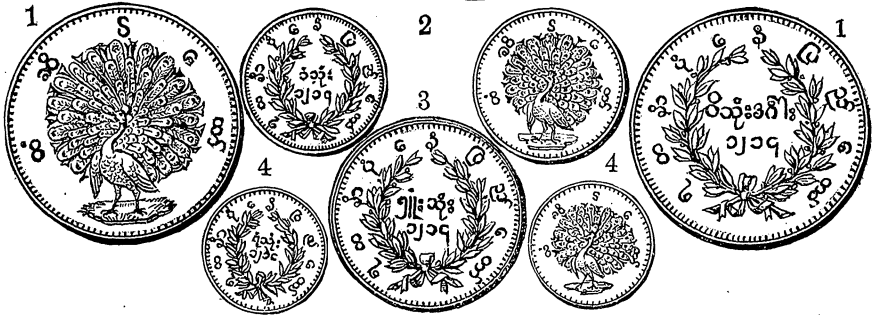
DENMARK, SILVER. Nos. 1 and 3, Two Rigs Dollar, m. 81 cts.; No. 2, One Rigs Dollar, m. 40 cts.; No. 4, Four Skillings, m. 1 1/4 cts.; No. 5, 1/2 Rigs Dollar, m. 20 cents; No. 6, Three Skillings, m. 1 cent; No. 7, 1-6 Rigs Dollar, m. 6 cents; No. 8, Specie Rigs Dollar, m. 81 cents; No. 9, Ten Oere, 2 1/2 cents; No. 10, Twenty-five Oere, 6 1/4 cents; No. 11, 1-24 Rigs Dollar, (for Norway) m. 3 cents; No. 12, One Kroner, or Crown, 2 3/4 cents; No. 13, Two Crowns, or Kroners, 5 3/4 cents.



FRANCE, SILVER. Number 1, 3, 4 and 10, Five Francs, 96½ cents; Numbers 2 and 13, Twenty Centimes, 3½ cents; Numbers 5 and 8, Two Francs, 38½ cents; Numbers 6, 7 and 11, Fifty Centimes, 9½ cents; Numbers 9 and 12, One Franc, 19½ cents.



FRANCE, FOR COCHIN CHINA, SILVER. Fifty, Twenty and Ten Cents; 33, 15 and 7 cents in value, respectively.

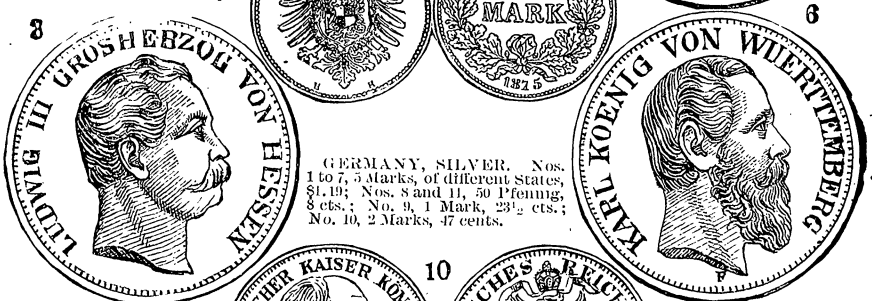


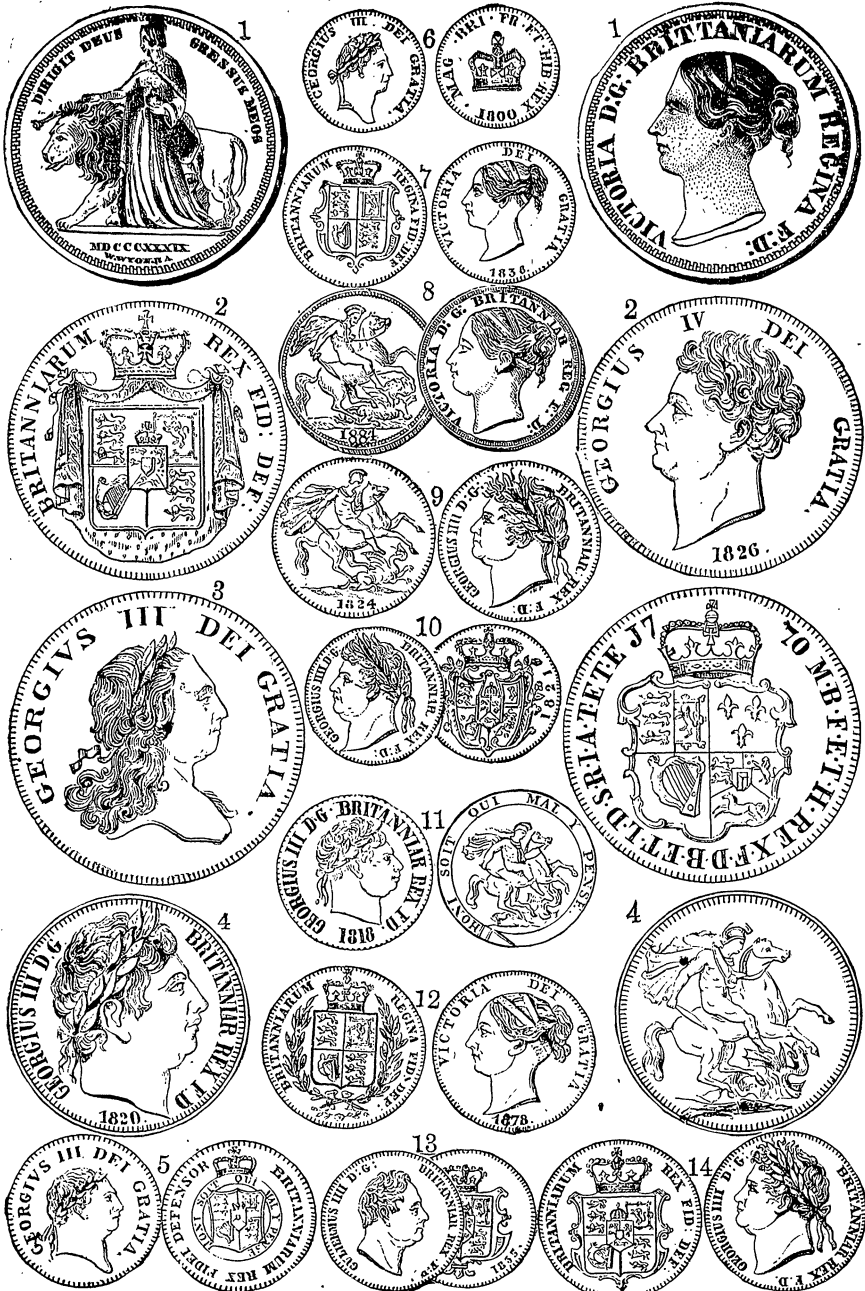
BURMAH, SILVER. No. 1, Rupee, 35 cents; No. 2, 1/4 Rupee, 8 cents; No. 3, 1/2 Rupee, 17 cents; No. 4, 1/8 Rupee, 4 cents.



ROUMANIA, SILVER. No. 1, Five Lei, m. 72 cents; Nos 2 and 6, 1 Leu, 14 cents; Nos. 3 and 5, Fifty Bani, 7 cents; Nos. 4 and 7, 2 Lei, 28 cents.

GERMANY.

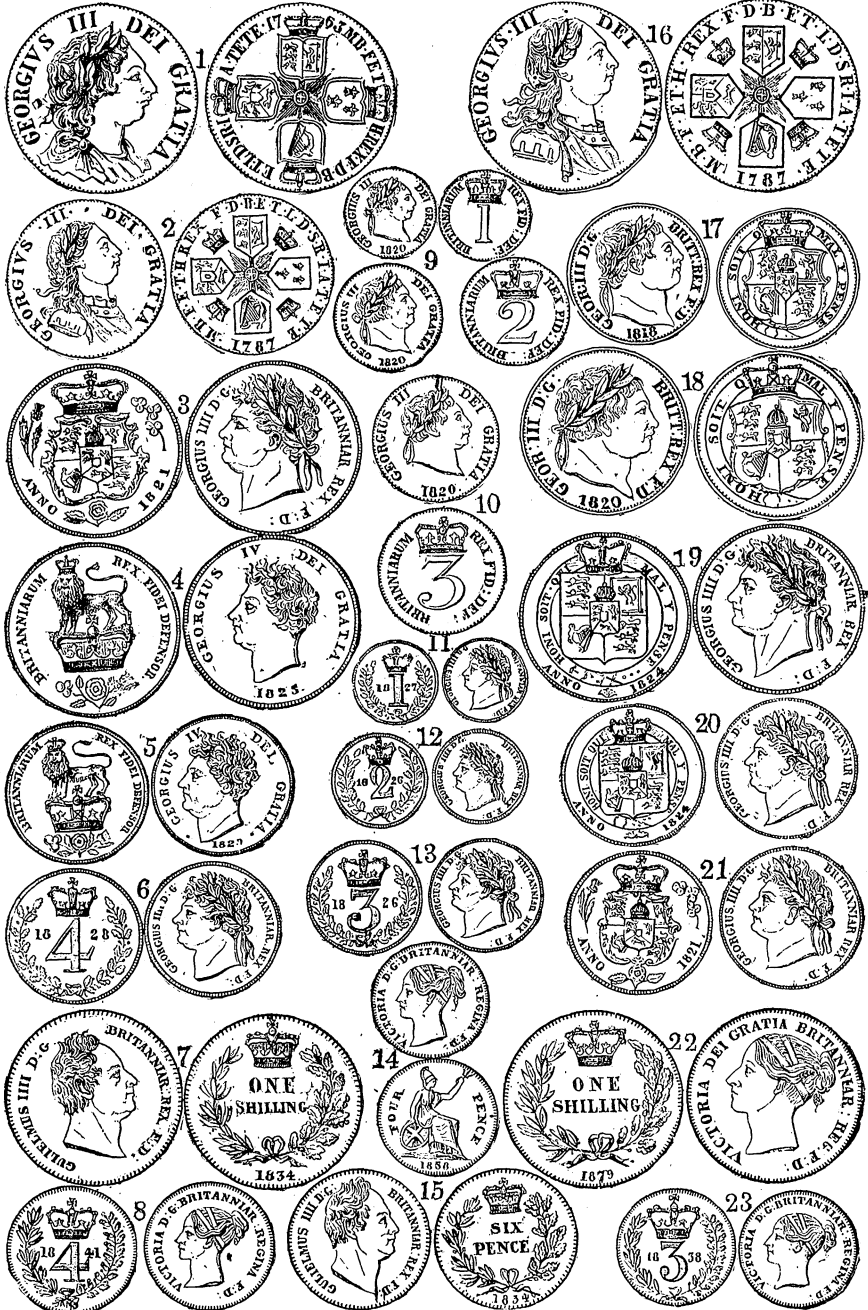




GREAT BRITAIN, GOLD. Nos. 1, 2 and 4, Five-sovereigns, \$24.32; No. 3, Five Guineas, \$25.48; No. 5, Half Guinea, \$2.55; No. 6, $\frac{1}{2}$ Guinea m. \$1.68; Nos. 7, 8, 9, 11, 12 and 14, Sovereigns, \$1.86; Nos. 10 and 13, Half-Sovereigns, \$2.43.



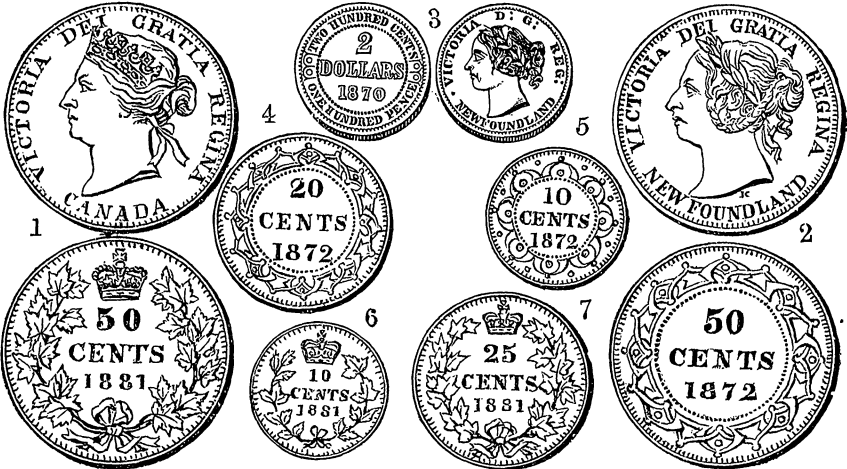
GREAT BRITAIN, SILVER. Nos. 1, 2 and 3, Crowns, \$1.21½; Nos. 4, 5 and 6, Half Crowns, 60½ cts.; Nos. 9 and 12, 1½ Pence, 3 cts.; Nos. 10 and 13, 2 Pence, 4 cts.; No. 11, Florin, 43½ cts.



GREAT BRITAIN, SILVER. Nos. 1, 3, 4, 7, 16, 18, 19 and 22, Shillings, 24 cts.; Nos. 2, 4, 15, 17, 20 and 21, Six Pence, 12 cts.; Nos. 6, 8 and 14, Four Pence, 8 cts.; No. 9, One and Two Pence, 2 and 4 cts.; Nos. 10, 13 and 23, Three Pence, 6 cts.; No. 11, 2 cts.



GREAT BRITAIN, EAST INDIES, SILVER. No. 1 1/2 Pagoda, 61 cents; No. 2, 1/4 Pagoda, 30 cents; Number 3, Five Fanams, 13 cents; Number 4, Two Fanams, 6 cents; Number 5, 48 Stivers, 23 cents; Number 6 and 13, Rupees, 34 cents; Number 7, 7/8 Rupee, 4 cents; Number 8, 24 Stivers, 13 cents; Number 9, 2 Annas, 4 cents; Number 10 and 11, 1/2 Rupee, 8 cents; Nos. 12 and 16, 1/4 Rupee, 17 cents; Number 14, Rix Dollar, 26 cents; Number 15, 96 Stivers, 48 cents.



GREAT BRITAIN, FOR CANADA AND NEW FOUNDLAND, SILVER. Fifty, Twenty-five, Twenty and Ten Cent Pieces; in GOLD, a Two Dollar coin; all corresponding with United States money.



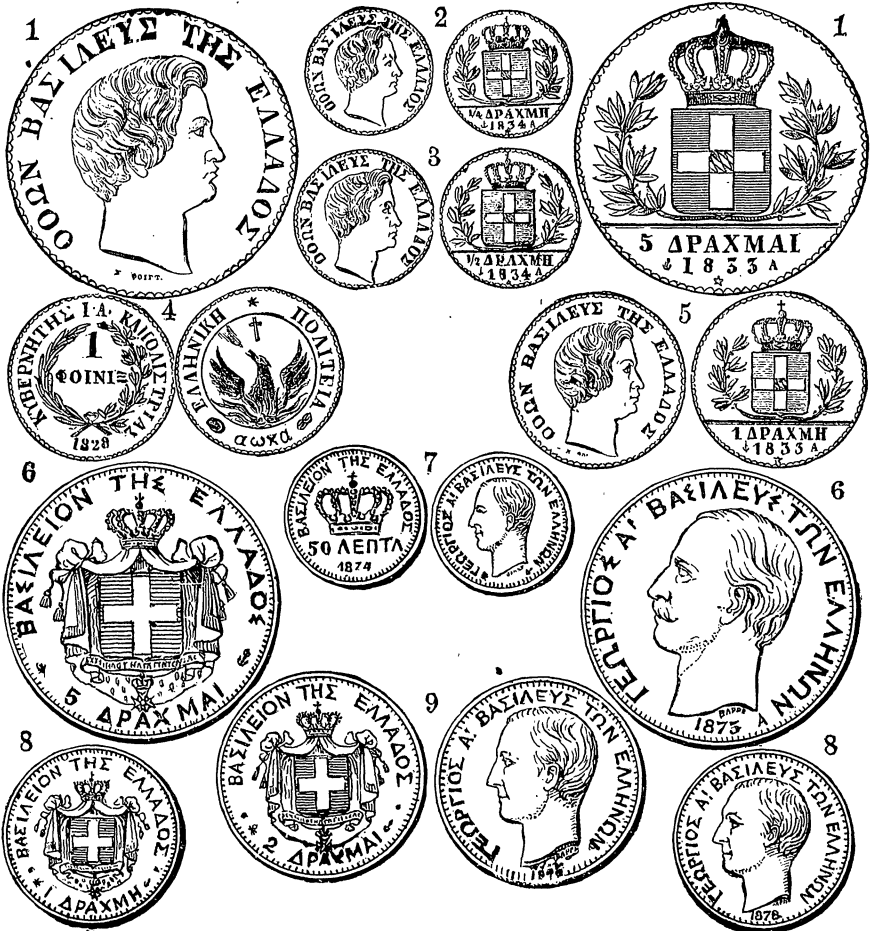
HAÏTI, SILVER. No. 1, One Gourde, 95½ cents; No. 2, Twenty Centimes, 19½ cents; No. 3, Ten Centimes, 9½ cents; No. 4, Fifty Centimes, 48 cents.



GREAT BRITAIN, FOR EAST INDIES, SILVER. Half and Quarter Rupee, respectively, 16 and 8 cents.



GREECE, GOLD. No. 1, Twenty Drachmas, \$3.85 ; No. 2, Forty Drachmas, \$7.70.



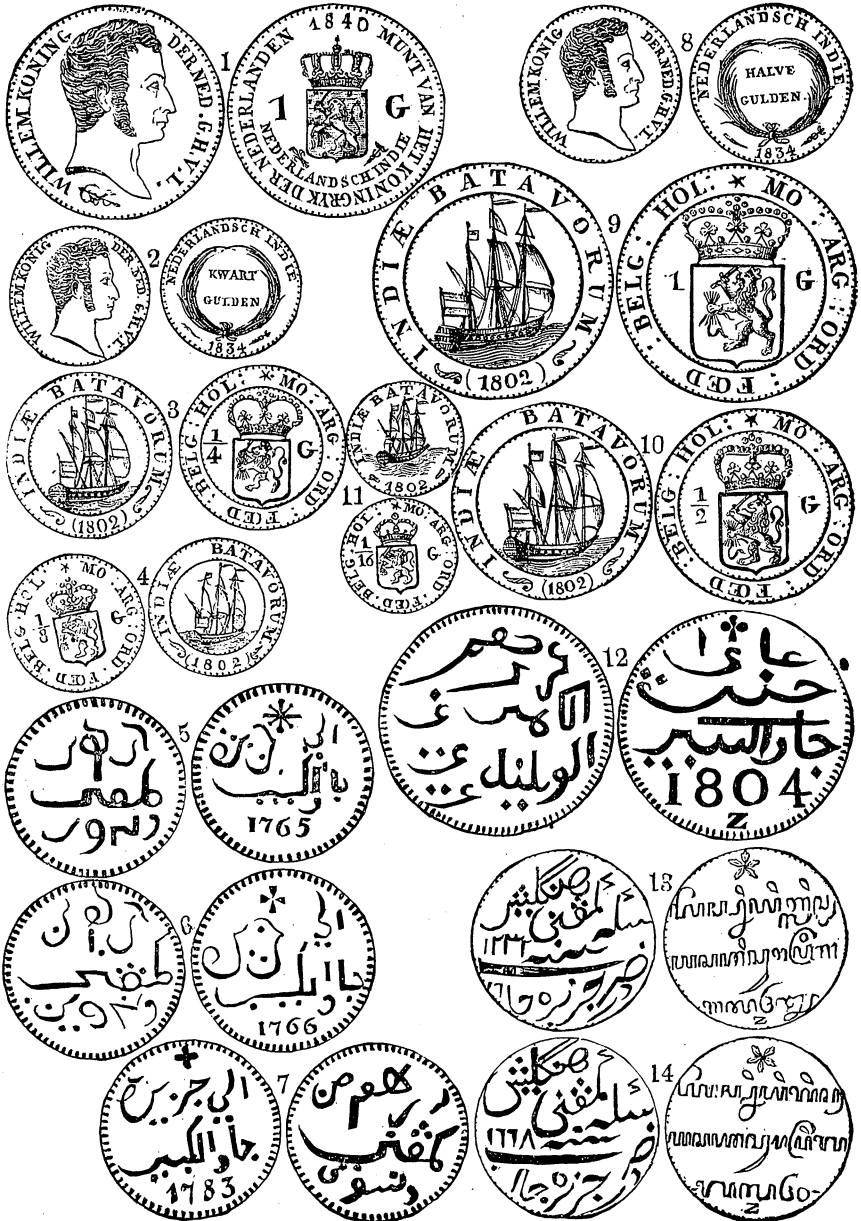
GREECE, SILVER. Nos. 1 and 6, Five Drachmas 96½ cents ; No. 2, Quarter Drachma, 5 cents ; No. 3, Half Drachma, 10 cents ; No. 4, One Phoenix m., 8½ cents ; No. 5 and 8, One Drachma, 19½ cents ; No. 7, Fifty Lepta, 9½ cents ; No. 9, Two Drachmas, 38½ cents.



HOLLAND, GOLD. No. 1, 20 Florins m., \$8.30; No. 2 Rider m., \$6.07; Nos. 3, 5 and 12, Ten Florins, \$4.01; No. 4, ½ Rider m., \$3.01; Nos. 6, 7, 8, and 13, Ducats m., \$2.23; Nos. 9 and 10, Five Florins m., \$1.97.



HOLLAND, SILVER. Nos. 1 and 3, 2½ Guilders m., 77 cents; No. 2, 3 Guilders m., 91 cents; No. 4, 50 Stivers m., 83 cents; No. 5, Florin m., 40 cents; No. 6, Ten Cents, 3 cents; No. 7, 25 Cents, 10 cents; No. 8, 1 Guilder, 30 cents.



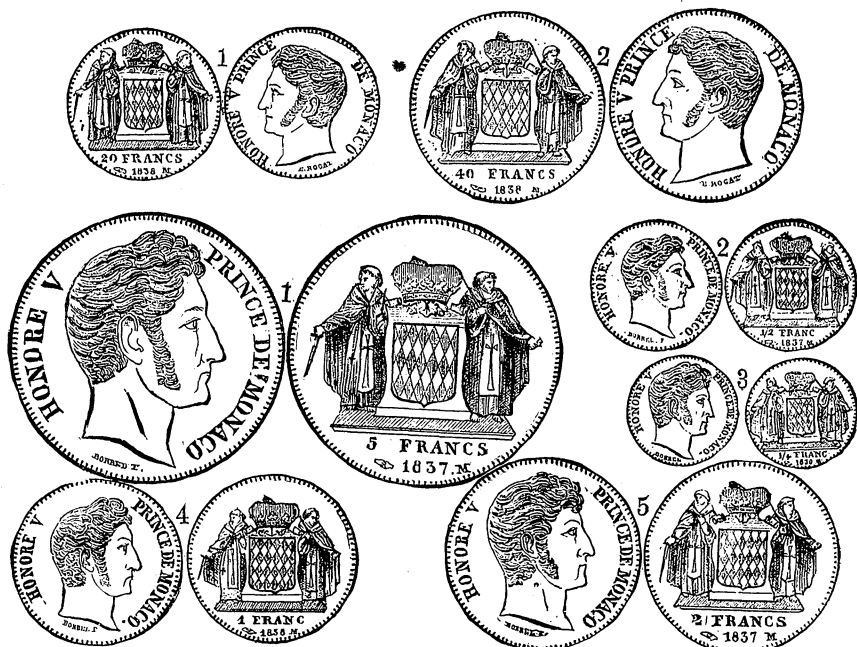
HOLLAND, FOR EAST INDIES, SILVER. Numbers 1 and 9, Guldens, 31 cents; Numbers 2 and 3, ¼ Gulden, 7 cents; Number 4, ½ Gulden, 3 cents; Numbers 5, 6, 7, 12, 13 and 14 Ruppes of India Isles, worth from 22 to 35 cents; Numbers 8 and 10, Half Guldens, 15 cent



ITALY, ROME, SILVER. Numbers 1, 2, 8 and 9, Scudo, 77 cents; Number 3, Papetto (20 Baiocchi), 15 cents; Numbers 4 and 6, Testore (30 Baiocchi), 23 cents; Number 5, Five Baiocchi, 3 cents; Number 7, 50 Baiocchi, 39 cents.



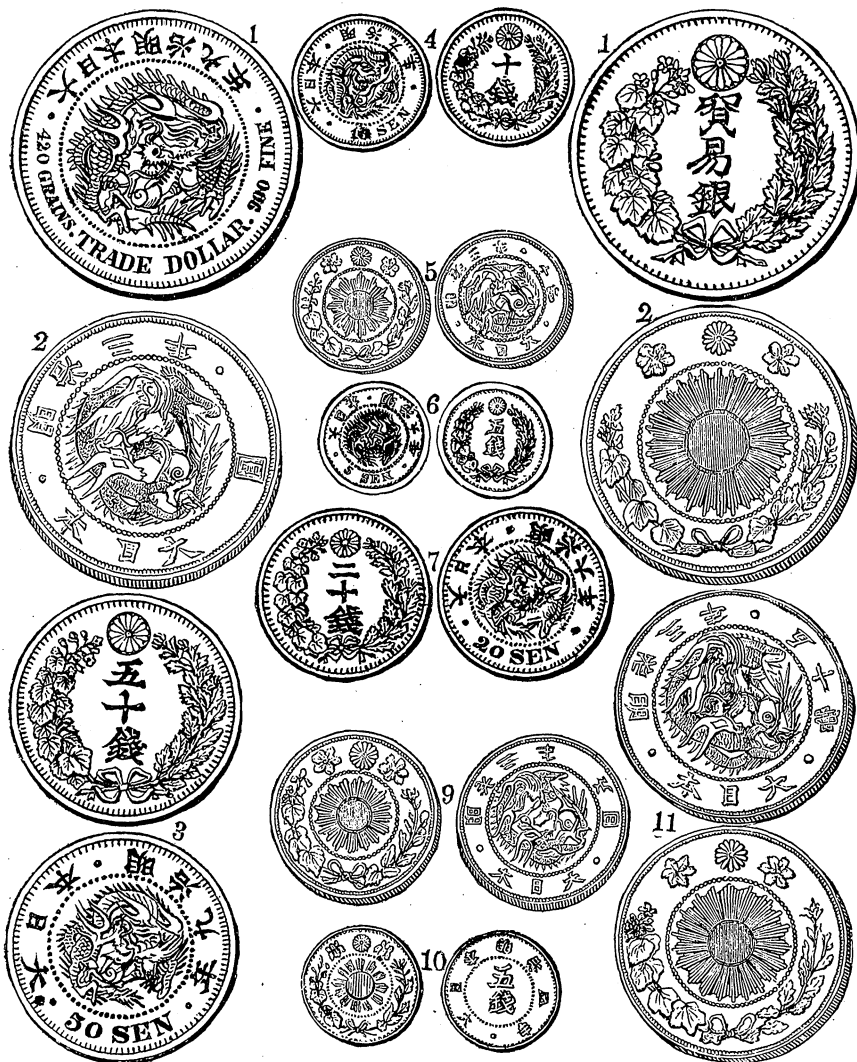
ITALY, SICILY, GOLD. Nos. 1 and 8, 15 Ducats, \$12.40; Nos. 2, 7, 9 and 11, Three Ducats, \$2.32; No. 3, 40 Lire, \$7.70; No. 4, 20 Lire, \$3.83; Nos. 5, 6, 10 and 12, Six Ducats, \$4.82.



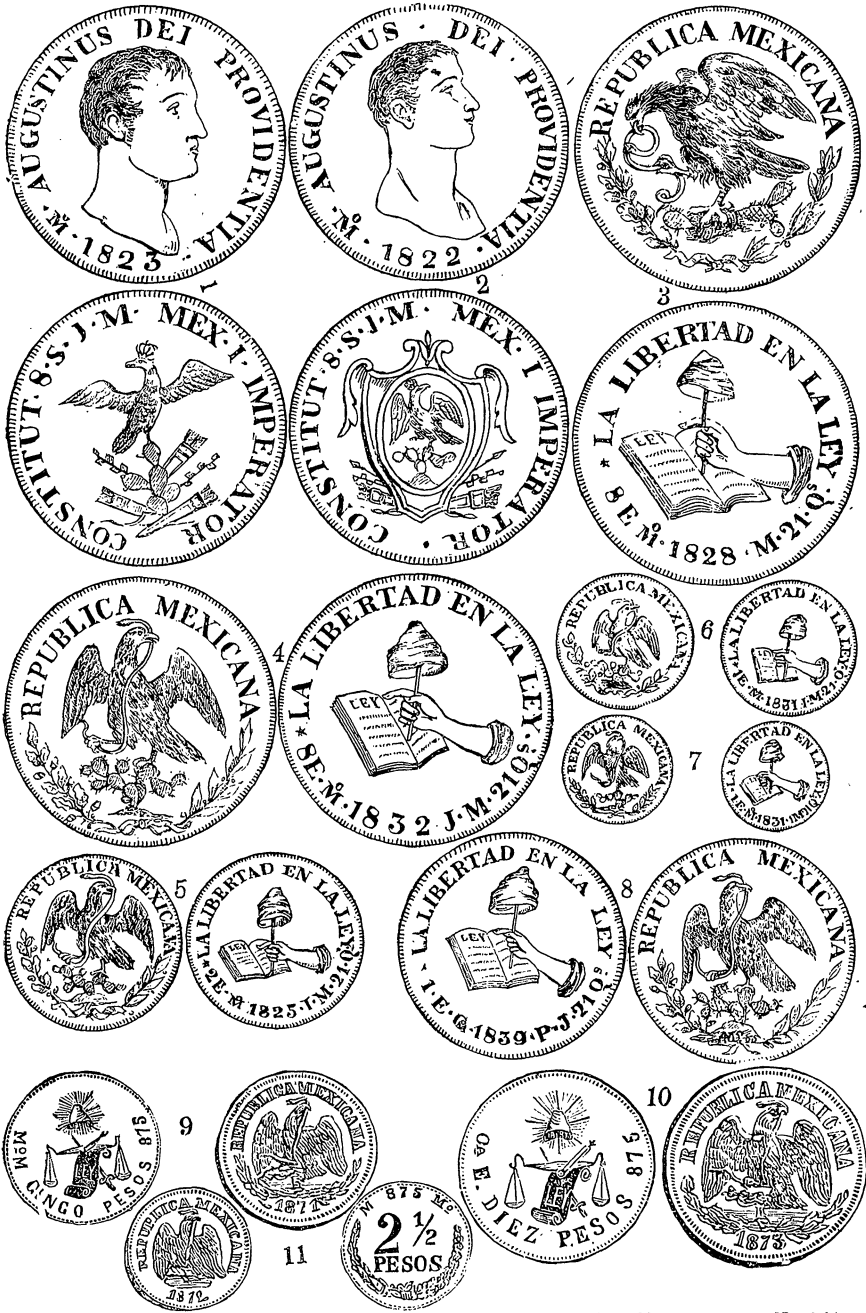
ITALY, MONACO. GOLD. No. 1, 20 Francs, \$3.85; No. 2, 40 Francs, \$7.70. SILVER. No. 1, 5 Francs, 95 cts.; No. 2, 1/2 Franc, 9 cts.; No. 3, 1/4 Franc, 4 1/2 cts.; No. 4, 1 Franc, 19 cts.; No. 5, 2 Francs, 38 cts.



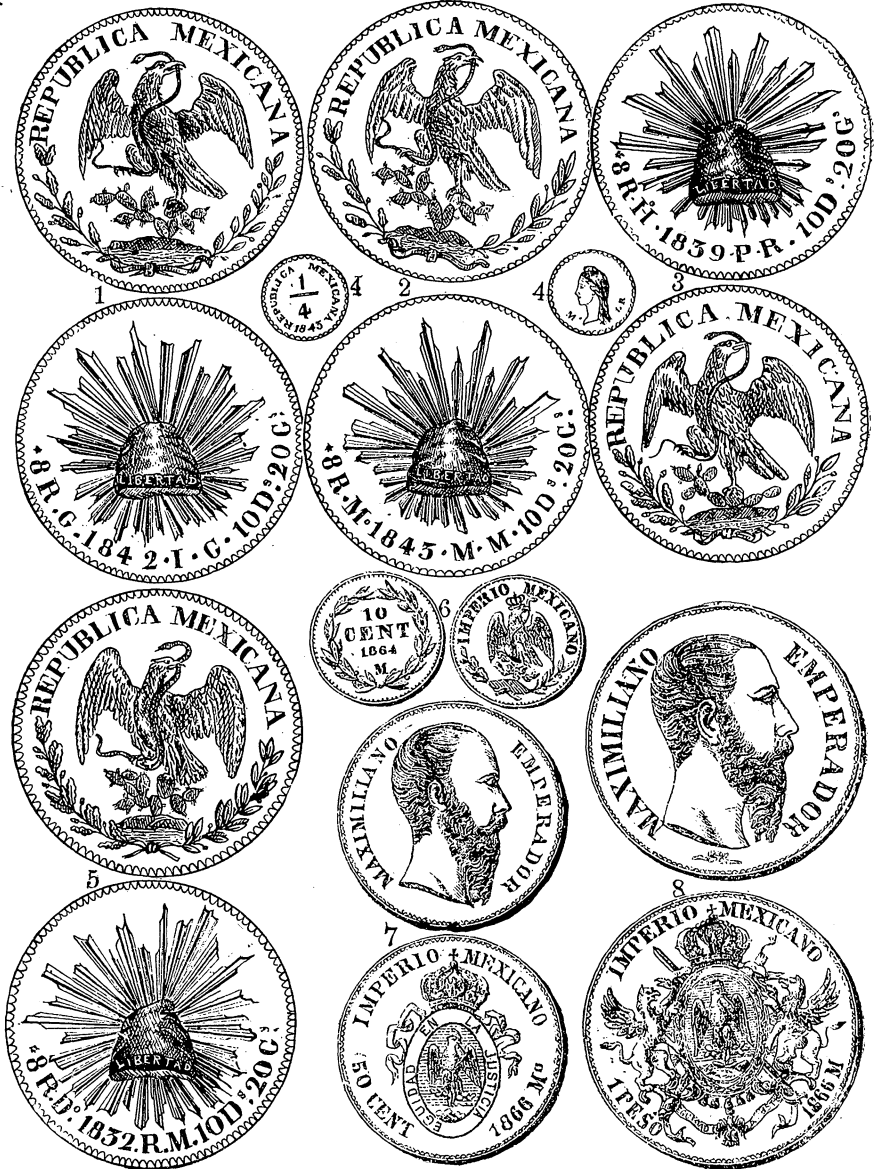
UNITED STATES COLOMBIA, GOLD. Numbers 1 and 2, Doubloon, \$15.53; No. 3, Escudo, \$1.78; No. 4, 1/2 Doubloon, \$7.74; No. 5, Peso, 86 cents.



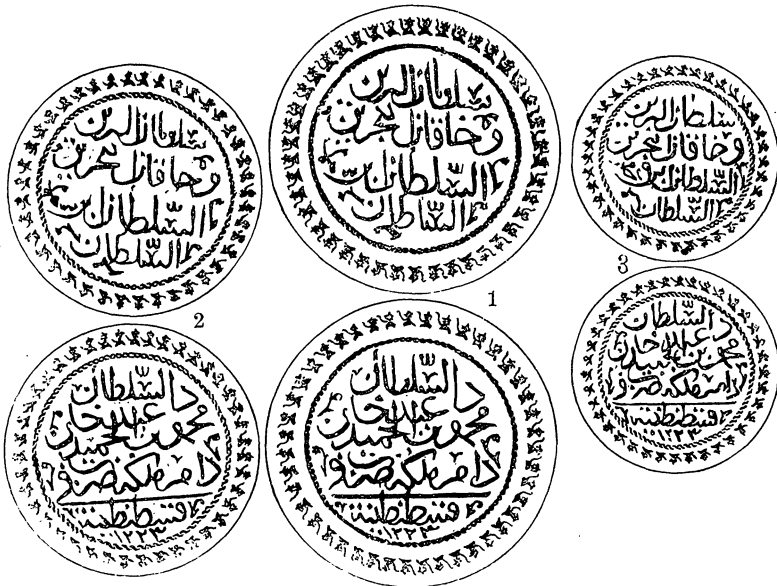
JAPAN, SILVER. No. 1, Trade Dollar m., 78 cents; No. 2, One Yen, 86½ cents; No. 3, Fifty Sen, 43½ cents; No. 4, Ten Sen, 8½ cents; No. 5, Dime m., 6¼ cents; No. 6, Five Sen, 4½ cents; No. 7, Twenty Sen, 17½ cents; No. 9, ¼ Yen, 20 cents; No. 10, ½ Dime m., 3 cents; No. 11, Half Yen, 43 cents.



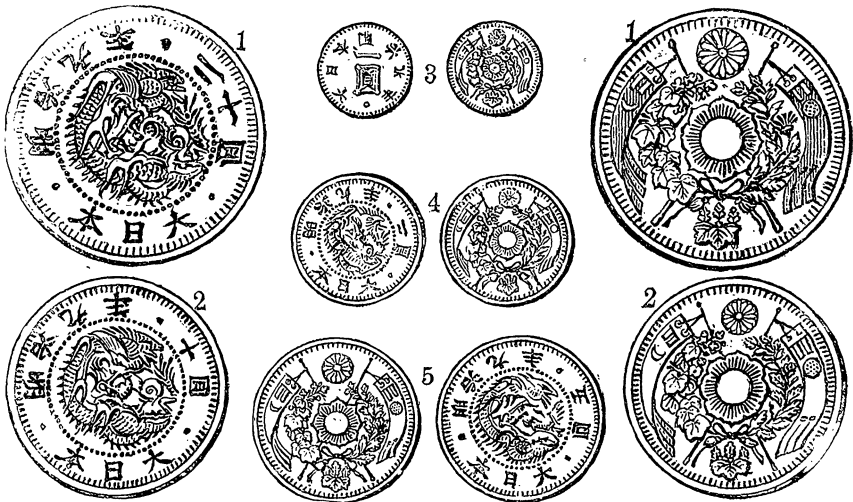
MEXICO, GOLD. Nos. 1, 2, 3 and 4. Doubleon m., \$15.70; No. 5, 1/4 Doubleon m., \$3.85; No. 6, 1/2 Doubleon m., \$1.94; No. 7, 1-16 Doubleon m., 94 cents; No. 8, 1/2 Doubleon m., \$7.87; No. 9, Five Pesos, \$1.01; No. 10, Ten Pesos, \$2.33; No. 11, 2 1/2 Pesos, \$2.45.



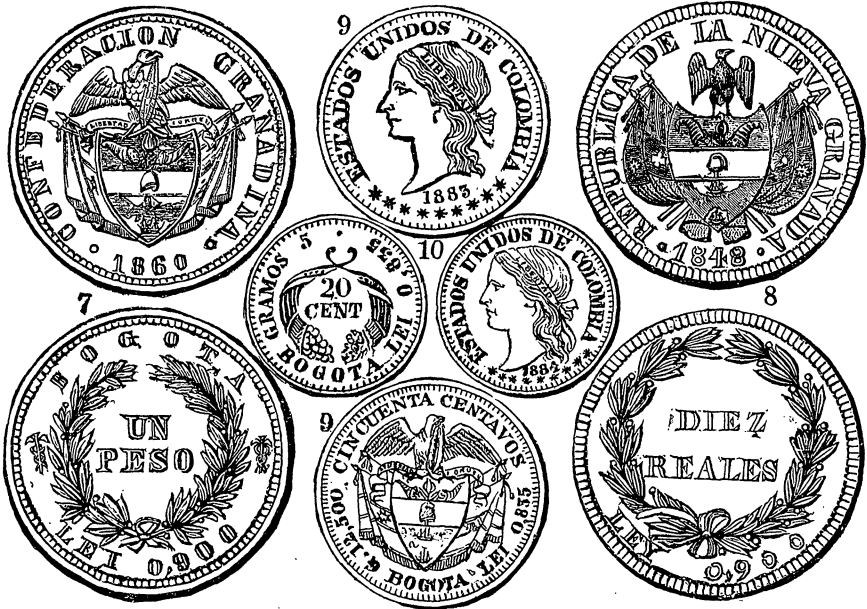
MEXICO, SILVER. Numbers 1, 2, 3, 5 and 8, Peso or Dollar, 87½ cents; Number 4, ¼ Real, 2 cents; Number 6, Ten Centavos, 8½ cents; Number 7, Half Dollar, 43½ cents.



MOROCCO, GOLD. This is one Buntagui, half and quarter. No gold has been coined in Morocco for nearly a century. Valuable only as curiosities.



JAPAN, GOLD. Number 1, Twenty Yens, \$19.93; No. 2, Ten Yens, \$9.96; Number 3, One Yen, 99 cents; Number 4, Two Yen, \$1.99; Number 5, Five Yen, \$4.98.

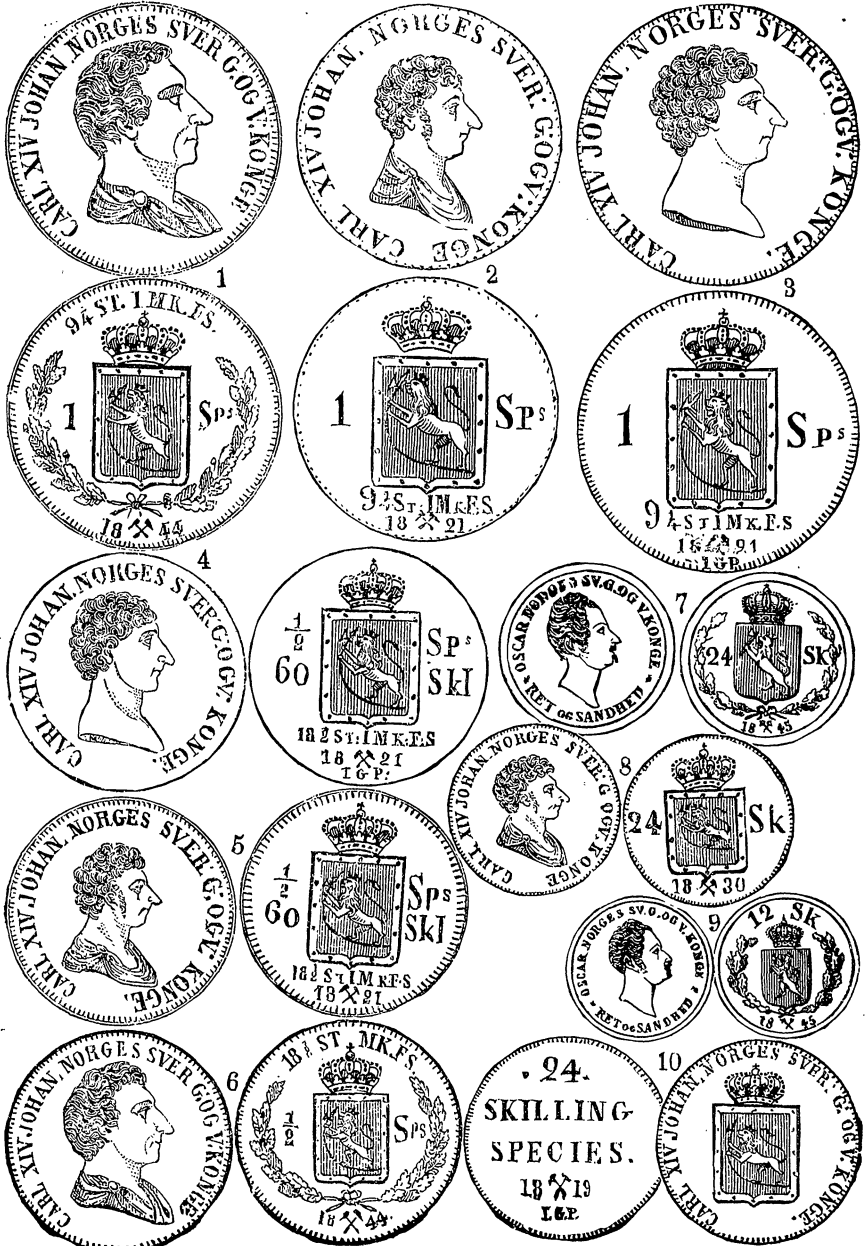


NEW GRANADA, SILVER. Numbers 7 and 8, One Peso, 91 cents; Number 9, Half Peso, 45 cents; Number 10, Twenty Centavos, 20 cents.



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PHILADELPHIA, PA., U. S. A.

ECUADOR, SILVER. Number 1, One Sucre or Peso, 80 cents; Number 2, 1-10 Sucre, 8 cents; Number 3, Half Sucre, 40 cents; Number 4, 1-5 Sucre, 16 cents.



NORWAY AND SWEDEN, SILVER. Numbers 1, 2 and 3, Species-Dalers, 83 cents; Numbers 4, 5 and 6, Half Species Dalers, 41 cents; Numbers 7, 8 and 10, 24 Skillings, 16 cents; Number 9, 12 Skillings, 8 cents.



PERSIA, GOLD. Nos. 1 and 5, Pieces of Ali Shah, \$2.11; No. 2, Roupee, \$7.23; Nos. 3, 4, 9 and 10, 1/2 Roupees, \$2.10; No. 6, 1/8 Roupee, 90 cents; No. 7, 1-16 Roupee, 43 cents; No. 8, 1/2 Roupee, \$3.73.



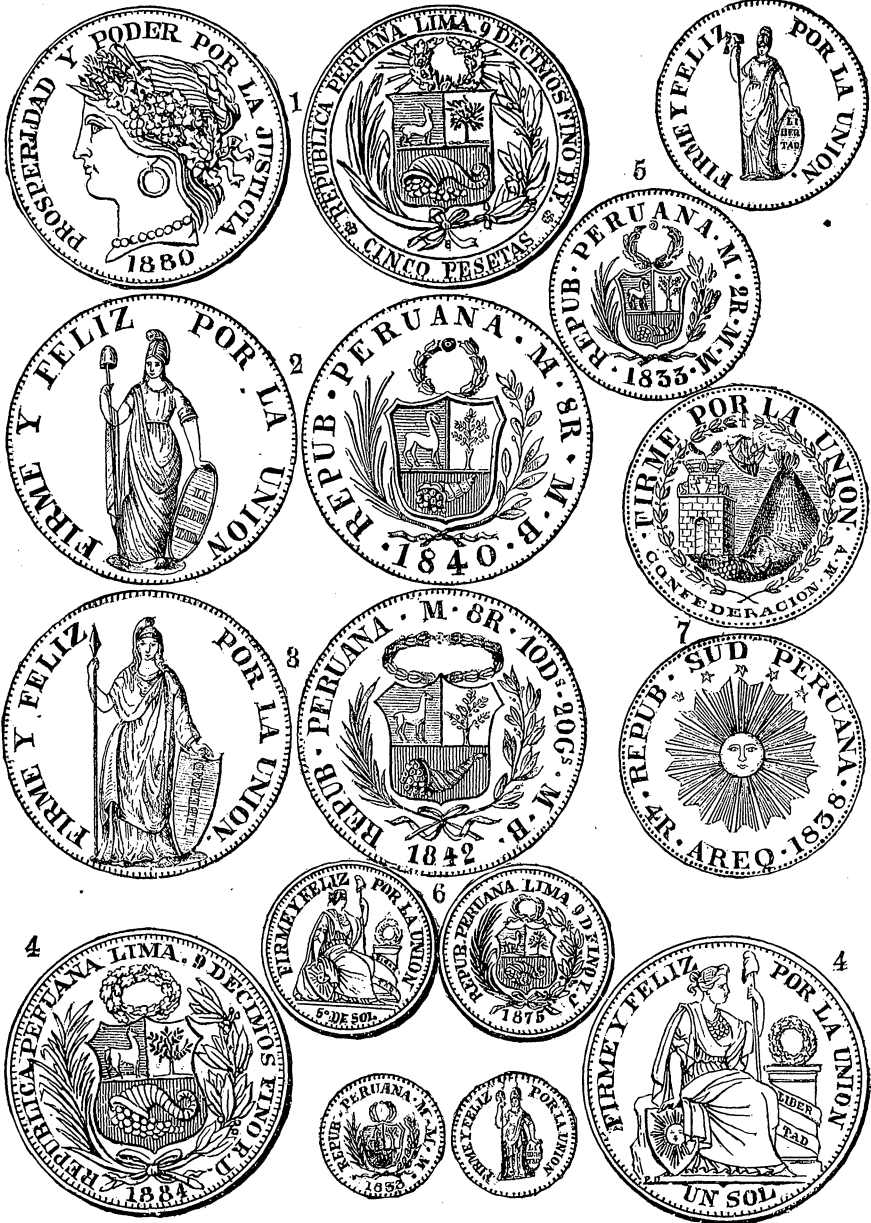
MOROCCO, SILVER. Numbers 1, 2 and 3, Miscals, from 60 to 82 cents in value. Spanish Silver is generally used here.



PERSIA, SILVER. Nos. 1, 2, 3, 4, 5 and 8, are the Sah Koran, worth from 16 to 23 cts.; Nos. 6, 10, 11, 13, 14 and 16, Rupees, 17 cts.; Nos. 7 and 9, $\frac{1}{4}$ and $\frac{1}{2}$ Rupees, $3\frac{1}{2}$ and 8 cts.; No. 15, Penabat, 12 cts.



ALGERIA, TRIPOLI, TUNIS, GOLD. Nos. 1, 3 and 4, Sequins, from \$1.24 to \$1.70; No. 2, Half Sequin, 89 cents; No. 5, Quarter Sequin, 72 cents.



PERU, SILVER. Numbers 1, 2, 3 and 4, Peso or Sol, 80½ cents; Number 5, Two Reals, 16 cents; Number 6, 1-5 Sol, 16 cents; Number 7, Four Reals, 32 cents; Number 8, ½ Real, 4 cents.



PORTUGAL, GOLD. Number 1, Dobra, m. \$17.29; Numbers 2, 13, 15 and 18, Half Dobra, m. \$8.64; Number 3, Escudo, m. \$2.15; Number 4 and 10, Half Escudo, m. \$1.07; Number 5 and 12, 16 Testons, m. \$2.15; Number 6 and 11, 1/2 Dobra, m. \$4.30; Number 7 and 9, 8 Testons, m. \$1.07; Number 8 and 17, New Crusado, m. 60 cents; Number 16, 1/4 Moidore, m. \$1.54.



RUSSIA, GOLD. Numbers 1 and 2, Imperials, \$7.98; Number 3, Double Ducat, m. \$4.42; Number 4, Five Roubles. \$3.95; Number 5 and 13, Ducat, m. \$2.29; Nos. 6 & 12, Three Roubles, \$2.38; Number 7 and 11, Imperial Ducat, m. \$2.28; Numbers 8, 9 and 10, Half Imperial, \$3.99.



RUSSIA, SILVER. No. 1, Rouble (Peter the Great), 61 cents ; No. 2, Rouble of several types, 57 cents ; No. 3, 20 Copecks, 12 cents ; No. 4, Rouble (Nicholas I.), 57 cents ; Nos. 5 and 6, 10 and 15 Copecks, 6 and 8 cents.



RUSSIA, PLATINA. No. 1, Twelve Roubles, m. \$9.00; No. 2, Six Roubles, m. \$4.50; No. 3, Three Roubles, m. \$2.25. This money was only made from 1823 to 1837.



SPAIN, SILVER. No. 1, 2 and 4 Pieces of 5 Pesetas, 96½ cents; No. 3, Piece of 20 Reals, 96½ cents.



SPAIN, SILVER. Nos. 1, 3 and 4, Reals of 8., m., 78 cts.; No. 2, Piastra (for Mexico) m., 77 cts.; Nos. 5, 6, 7, Quarter Piastras, m., 19 cts.; No. 8, ¼ Piastra, 9 cts.



SWITZERLAND, GOLD. No. 1, Triple Pistole, \$10.63; Nos. 2, 4, 8, 12 and 14, Double Pistole, \$9.03; Nos. 3 and 8, Double Ducat, \$4.00; Nos. 5, 7, 9, 11, Pistole, \$4.47; Nos. 6, 15, 16, 17, 18, 19, 20, Ducat, \$2.11; No. 10, 1/4 Pistole, \$1.07; No. 11, 1/2 Pistole, \$2.27, No. 13, Frederick d'or \$4.65, No. 21, 1/4 Ducat, 54 cents; No. 22, 1/2 Ducat, \$1.11.



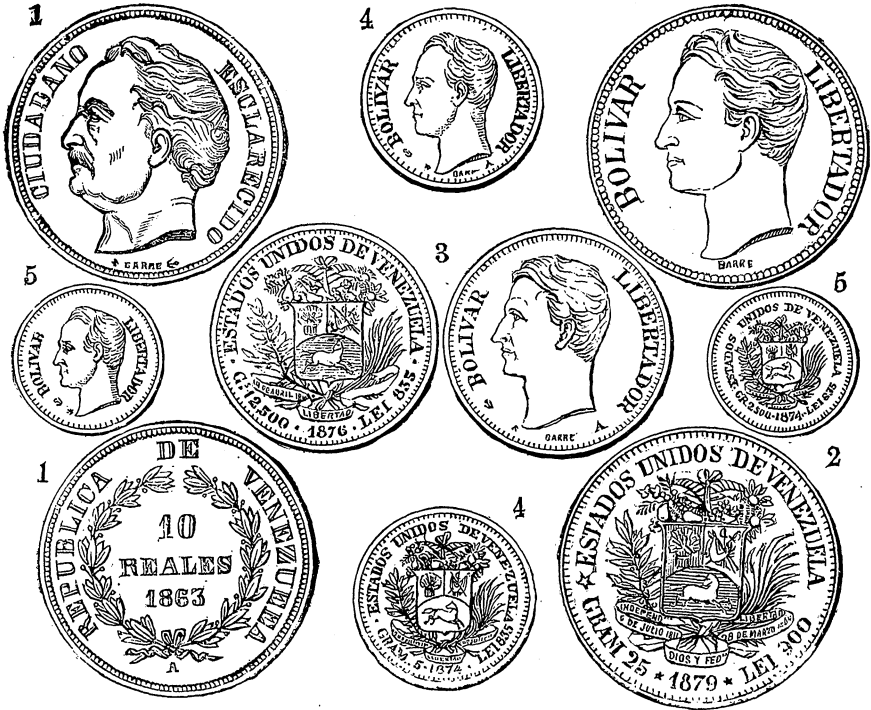
SWITZERLAND, SILVER. No. Five Francs, 96½ cents; Nos. 2 and 6, One Franc, 19 cents; Nos. 3 and 5, Two Francs, 38½ cents; No. 4, Half Franc, 09½ cents; Nos. 7 and 8, Ecu, \$1.04; No. 9, Two Batzen m. 43.



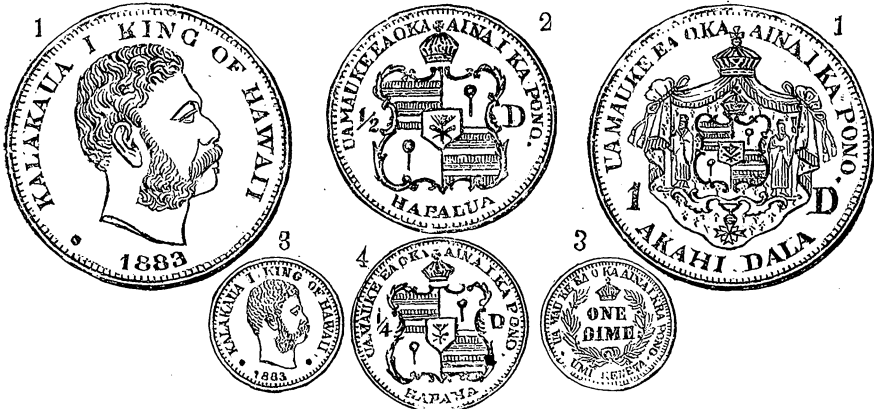
EGYPT, GOLD. Numbers 1, 7 and 8, 50 Piasters, from \$1.16 to \$2.62; Numbers 2 and 6, 100 Piasters, \$4.96; Numbers 3 and 5, 12½ Piasters, 30 and 52 cents; Number 4, 25 Piasters, 86 cents.



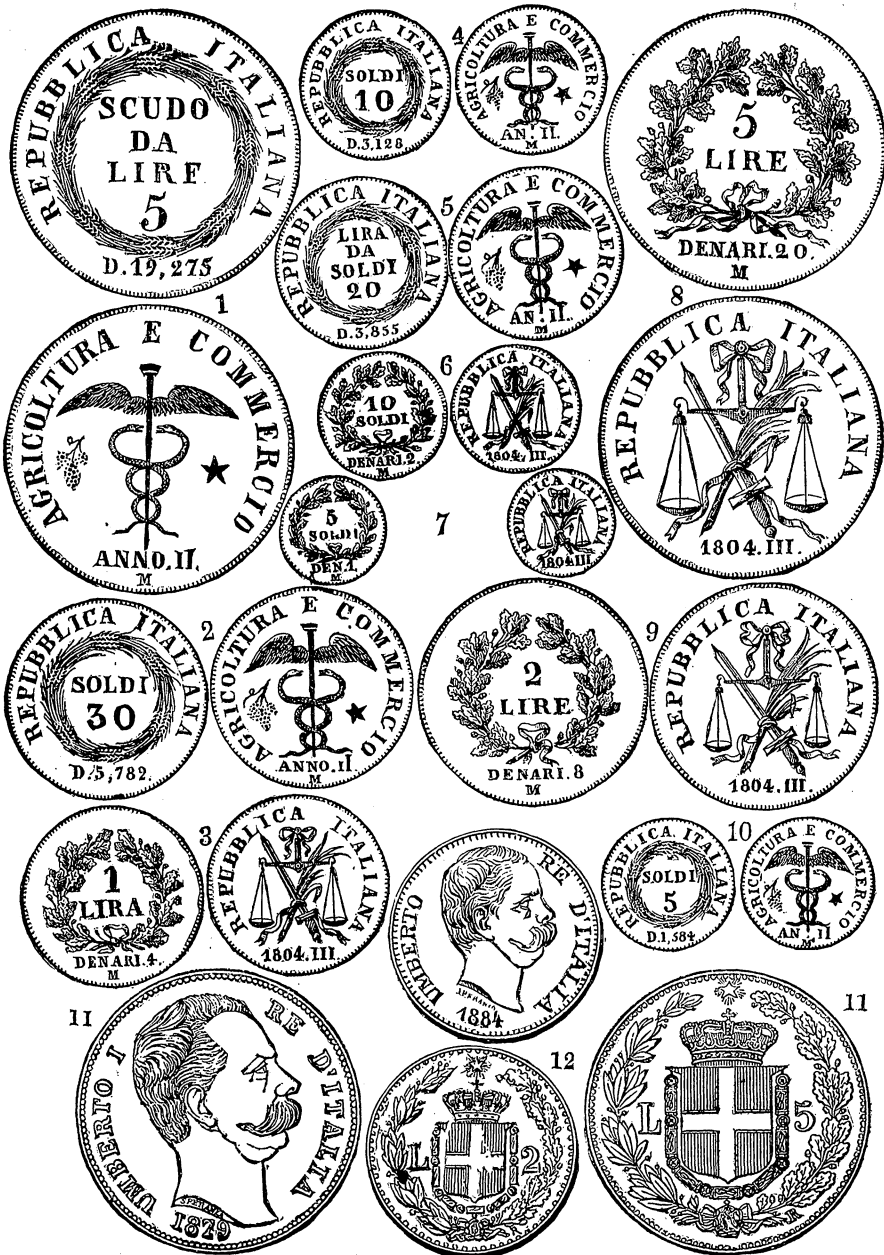
TURKEY, GOLD. Numbers 1, 2 and 8, Picce of 25 Piasters, 89 cents; Numbers 3, 4, 6 and 7, 12½ Piasters, 43 cents; Number 5, 6¼ Piasters, 21 cents; Number 9, 100 Piasters, \$4.34; Number 10, 50 Piasters, \$2.16.



VENEZUELA, SILVER. Numbers 1 and 2, One Boliviana, 80½ cents; Number 3, Half Boliviano, 40 cents; Number 4, 1-5 Boliviano, 16 cents; Number 5, 1-10 Boliviana, 8 cents.



HAWAII (SANDWICH ISLANDS), SILVER. Number 1, One Dollar, m. 77 cents; Number 2, Half Dollar, m. 36 cents; Number 3, Dime, n. 7 cents; Number 4, Quarter Dollar, m. 13 cents.



ITALY, SILVER. Nos. 1, 8 and 11, Scudo, (5 Lire) 96 cts.; No. 2, 30 Soldi, 28 cts.; Nos. 3 and 5 1 Lire, 19 cts., Nos. 4 and 6, 10 Soldi, 9 cts.; Nos. 7 and 10, 5 Soldi, 4 cts.; Nos. 9 and 12, 2 Lire, 38 cts.



Old Time yields up his precious hoards,
Calm Science gives her just awards;

By tarnished coin, th' lo
Proves History's truth,

ANCIENT GREEK COINS.



ANCIENT GREEK COINS.

The rather numerous plates devoted to Greek coins of past ages are by no means the least valuable or interesting in this work, comprising as they do, records and studies in mythology through the presentation of the gods and heroes as imagined by their worshipers; in history presenting what must be accepted as authentic portraits of sovereigns and princes from Alexander to Augustus, covering a period of from B. C. 700, to the Christian Era, and giving reliable evidences of political changes and histories of the many autonomous cities and states of the then civilized world; the metrologist will find much to command attention in comparison of the various systems and standards; the paleographer will have examples of the ancient alphabets, Lycian and Cyprian, Phœnician, Greek, Latin, Iberian, &c., in different stages of development, and the artist or medallist see before him models of perfection, that for elegance of design and excellence of finish defy the genius and skill of the present day to equal or even approach.

The plates present specimen coins of Syria, Egypt, Asia Minor, Phœnicia, Northern and Central Greece, the Peloponnesus and islands of the Ægean, Italy, Sicily, Western Europe, the southern shores of the Mediterranean, &c., &c., exhibiting the Period of Archaic Art, ending with the Persian wars, B. C. 700-480; Period of Transitional and Early Fine Art, to the end of the Athenian supremacy, B. C. 480-400; Period of Finest Art, Age of the Spartan and Theban supremacies, B. C. 400-336; Period of Later Fine Art, Age of Alexander and the Diadochi, B. C. 336-280; Period of the Decline of Art, Age of the Epigoni, &c., B. C. 280-190; Period of continued Decline of Art, Age of the Attalids, B. C. 190-100; and Period of the late Decline of Art, Age of Mithradates the Great and of Roman dominion, B. C. 100-1.

The skill of the most eminent artists and engravers has been called into requisition in the preparation of these beautiful plates from authentic, original coins, and the results of their efforts, superior though it is, hardly does justice to the elegant models from which they copied.

1. A Phœnician stater, electrum metal, of *Lesbos*. Obverse, a lion's head; Reverse, an incuse square. Probably belonging to the period immediately preceding the reform of the coinage by Cæsus, B. C. 560.

2. A "LAMPSACENE stater," such as is mentioned in Attic inscriptions, together with the staters of Cyzicus. This is of electrum; about the end of the fifth century a gold coinage was introduced. The sea horse is a symbol of Poseidon. About B. C. 478.

3. Early gold coin, an Euboic stater of *Sardis*, capital of Lydia. Obverse, foreparts of lion and bull, face to face; Reverse, incuse square. B. C. 568.

4. A double stater of *Cyzicus*, Lion with fish below, on obverse; Reverse, punch-mark, about B. C. 470.

5. A gold Daric, or Persian stater, of Darius Hystaspes, who died B. C. 404. Obverse, the King kneeling with bow and javelin; Reverse, the punch mark.

6. COLOPHON, a coin of a dog standing upon a fish. Pliny states that the people of this city trained their dogs to assist in war, and to do duty as sentinels; Date about B. C. 500.

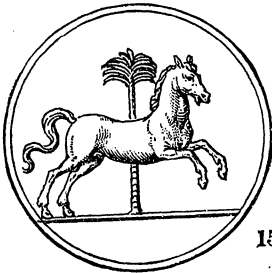
7. DOUBLE STATER of Phœcea, an Ionian city in Asia Minor. A seal on the Obverse, and mark of punch on the Reverse. Date about B. C. 500.

8. DIDRACHM of Ægina, an island in the Saronic gulf. Obverse, a land tortoise; Reverse, the punch-mark divided into compartments. Date B. C. 750.

9. TEOS, a gold coin of head of the fabulous griffin on Obverse, and punch-mark of very early date on Reverse. Date B. C. 520.

10. An incuse coin of the city of Sybaris, destroyed B. C. 510. A bull is shown, looking backwards. The initial letters, read from right to left, the first letter turned partly over, indicating great antiquity.

ANCIENT GREEK COINS.



15



20



16



1777



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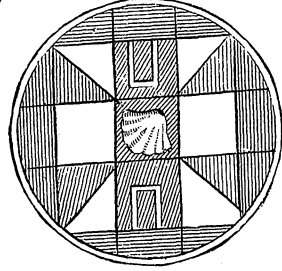
18



22



19



ANCIENT GREEK COINS.

11. Of the Spartan colony of Cyrene in Africa. Obverse, the sacred Silphium plant; Reverse, in punch mark, head of Jupiter Ammon. Date B. C. 450-430.
12. Of Athens, probably in the time of Pericles. Obverse, head of Athena (Minerva); Reverse, punch mark with owl and the initials of the city.
13. Early coin of Syracuse in Sicily. Obverse, head of Jupiter, with thunderbolt behind the shoulder.
14. Very early coin of Selinus, a town on the south coast of Sicily. Obverse, leaf of wild parsley, the sacred symbol of the city.
15. TETRADRACHM, of Panormus. Obverse, Head of Demeter, the products of the field in her hair; Reverse, a horse galloping past a palm tree. Date, B. C. 480.
16. Bronze coin of Panormus. Obverse, Head of Janus, laureated; Reverse, Po, enclosed in a wreath of olive leaves. B. C. 480.
17. Bronze coin of Panormus. Obverse, a helmeted male head, laureated; name of the city around it; Reverse, a laureated male head. B. C. 480.
18. Bronze coin of Panormus. Obverse, a fine head of Pallas; Reverse, a horse head and the trinacrin, typifying the three-cornered island of Sicily. B. C. 480.
19. Bronze coin of Mamertini. Obverse, Head of Hercules in a lion's skin; Reverse, an eagle standing on a support and having a serpent trodden under his left claw. Date, about B. C. 400.
20. TETRADRACHM, of Panormus, a city in Sicily. Obverse, Head of Hercules with lion's skin; Reverse, a horse head between a head of wheat and a palm branch. Date, B. C. 480.
21. Bronze coin of Panormus. Obverse, a male head; Reverse, three spears of wheat, indicating the fertility of the country. B. C. 480.
22. TETRADRACHM, of Zancle, now Messina, of Sicily. Obverse, a dolphin curved; Reverse, fancifully subdivided by two series of parallel lines, at right angles to each other. In the central space is a shell. Date, about B. C. 400.
23. TETRADRACHM, of Messana. Obverse, a hare, courant; Reverse, a car drawn by mules, with victory, holding crown, flying above. These peculiar types were first adopted on coins by Anaxilaus, who won a victory at Olympia with the mule car, and who introduced hares into Sicily. About B. C. 400.
24. A bronze coin of Mamertini. Obverse, a male head, laureated; Reverse, a bull, with lowered head, advancing towards the observer's left. Date, about B. C. 400.
25. TETRADRACHM, of Messenia, a south-westerly district of Peloponnesus. Obverse, a lion's scalp; Reverse, head of a calf, looking toward the observer's left. B. C. 450.
26. TETRADRACHM, of Catana, a city of Sicily. Obverse, a male head, laureated, full-face fronting; Reverse, a quadriga passing a column, a victory flying above, a serpent beneath. B. C. 400.
27. TETRADRACHM, of Catana. Obverse, fine head of Apollo, laureated, etc.; Reverse, a quadriga, with a victory above and a crab beneath. B. C. 400.
28. An electrum coin of the city of Syracuse, the most important in Sicily. Obverse, an elegant head of Artemis; Reverse, a fine head of Apollo. B. C. 500.
29. TETRADRACHM, of Syracuse. Obverse, head of Arethusæ, surrounded by dolphins; Reverse, a quadriga, with victory above, holding a legend; below are two dolphins. B. C. 500.
30. Bronze coin of Syracuse. Obverse, a fine head of Apollo; Reverse, a biga driven towards the observer's right; the Greek letter Psi in the exergue. B. C. 500.

ANCIENT GREEK COINS.



ANCIENT GREEK COINS.

31. **TETRADRACHM**, of Syracuse. Obverse, head of Pallas, helmeted, and behind a bunch or grapes over a wine cup; Reverse, a pegasus galloping.
32. **TETRADRACHM**, of Syracuse. Obverse, head of Pallas, helmeted, bull's head between the head and border; Reverse, a pegasus in motion. B. C. 500.
33. **TETRADRACHM**, of Syracuse. Obverse, a fine male head; Reverse, the fore-part of a pegasus galloping towards the observer's left. B. C. 500.
34. **TETRADRACHM**, of Syracuse. Obverse, a helmeted head; Reverse, a winged female standing, the right hand elevated, the left holding an animal by the head. B. C. 500.
35. **TETRADRACHM**, of Agrigentum, one of the most powerful and celebrated of the Greek cities in Sicily. Obverse, an eagle; Reverse, a crab, and helmeted head beneath it. B. C. 500.
36. Bronze coin of Agrigentum. Obverse, an eagle devouring a hare; Reverse, a crab with animalcule above and sea-plant beneath. Three globules around the border and one on the crab. B. C. 500.
37. Bronze coin of Syracuse. Obverse, a laureated and bearded head of Zeus; Reverse, Hiero I, driving a quadriga, and holding a branch in his left hand. B. C. 470.
38. Bronze coin of Syracuse. Obverse, Head of Gelon, the hair confined with a fillet; Reverse, a lion walking towards the observer's right; club of Hercules; lamp beneath. B. C. 480.
39. Bronze coin of Agrigentum. Obverse, a bearded and laureated head; Reverse, an eagle standing with extended wings, a cornucopia in front and star over the left wing. B. C. 500.
40. Bronze coin of Agrigentum. Obverse, a bearded head; Reverse, a serpent coiled round a staff, dividing the legend. B. C. 500.
41. **DIDRACHM**, of Cephalcedium, a town in Sicily. Obverse, Head of Ceres; Reverse, a shepherd with thyrsus in his left hand, standing with left foot resting on a hound and his right leg touching a second dog. About, B. C. 400.
42. Bronze coin of Syracuse. Obverse, bearded and laureated head of Posidon; Reverse, an ornamented trident, with dolphin on either side. B. C. 480.
43. Bronze coin of Emporiæ, a city of Hispania. Obverse, a head with D. D. stamped on the helmet; Reverse, a pegasus, stamped D. D., running. About B. C. 400.
44. Bronze coin of Himera, a city of Sicily. Obverse, Head of Pallas; Reverse, female standing with lyre in left hand and wreath in right. About B. C. 400.
45. A silver coin of Leontini, a city in Sicily. Obverse, head of a lion, with open mouth, surrounded by four grains of wheat; Reverse, a biga, with Nice crowning the horses.
46. Bronze coin of Leontini. Obverse, a female head, elegantly ornamented with a head dress; Reverse, a lion walking past a palm tree. About B. C. 450.
47. Bronze coin of Enna, a city in the centre of Sicily. Obverse, a pair of serpents harnessed to a plow; Reverse, a man standing and holding a long staff in his left hand. B. C. 450.
48. Bronze coin of Tauromenium. Obverse, a young head of Apollo; Reverse, a bull butting. Tauromenium was a city on the east coast of Sicily. About 300 B. C.
49. Bronze coin of Mendenum. Obverse, a head of Apollo, laureated. Reverse, Aesculopius standing upon a serpent and holding something in his right hand. B. C. 300.

ANCIENT GREEK COINS.



ANCIENT GREEK COINS.

50. Bronze coin of Gela, an important town in Sicily. Obverse, a female crowning a minotaur; Reverse, Biga and Nice with wreath. About B. C. 500.

51. Bronze coin of Argyrina, a city of Sicily. Obverse, an eagle standing by a branch of fruit; Reverse, a cross patonce, having in each of the angles two letters of the city. B. C. 300.

52. Bronze coin of Oenidae, a town in Acarnania. Obverse, head of Zeus; Reverse, head of the minotaur; this fabled monster typifying the river Achelous upon the bank of which the town was built. B. C. 400.

53. A silver coin of Segesta, a city of Sicily. Obverse, a female head, the hair confined with a fillet or band; Reverse, a dog scenting the ground. B. C. 450.

54. Bronze coin of Menaenum, an inland city of Sicily. Obverse, a laureated, juvenile head; two fishes in front thereof; Reverse, Ares advancing, with spear in right hand, shield and cloak in the left. B. C. 300.

55. TETRADRACHM, of Segesta. Obverse, a male head; Reverse, a dog walking past three heads of wheat which stand side by side. B. C. 450.

56. Bronze coin of Halaesae. Obverse, a laureated head of Apollo; Reverse, a man standing, in his right hand an ornament; behind him is a lyre and in front a musical instrument—all emblems of Apollo. B. C. 300.

57. TETRADRACHM, of Naxos, an ancient city of Sicily. Obverse, laureated, juvenile head, laurel leaf behind it; Reverse, Silenus seated, with cup in his left hand, a thyrsus in the right hand, behind, an ivy branch, and in front a statue of Priapus. B. C. 450.

58. TETRADRACHM, of Naxos. Obverse, bearded head of Dionysus, fillet with ivy leaves; Reverse, Silenus seated, with wine cup, thyrsus and ivy, similar to No. 66. B. C. 450.

59. Bronze coin of Morgantia, a city in Sicily. Obverse, a fine head of Pallas, helmeted and ornamented; Reverse, a lion standing, with a serpent below. B. C. 450.

60. TETRADRACHM, of Naxos. Obverse, bearded old head, surmounted by two horns; Reverse, a bunch of grapes hanging between two leaves. B. C. 450.

61. TETRADRACHM, of Selinus, an important Greek colony in Sicily. Obverse, a parsley leaf in a sunken square, the letters S. E. L. I. in the angles; Reverse, a parsley leaf inverted. B. C. 550.

62. Bronze coin of Tyndaris, a city on the north coast of Sicily. Obverse, Head of Demeter; Reverse, Castor and Pollux on horseback, galloping. B. C. 400.

63. Silver coin of Abacaenum, a city in Sicily. Obverse, a bearded head. Reverse, the Erymanthian boar, with erect bristles. B. C. 550.

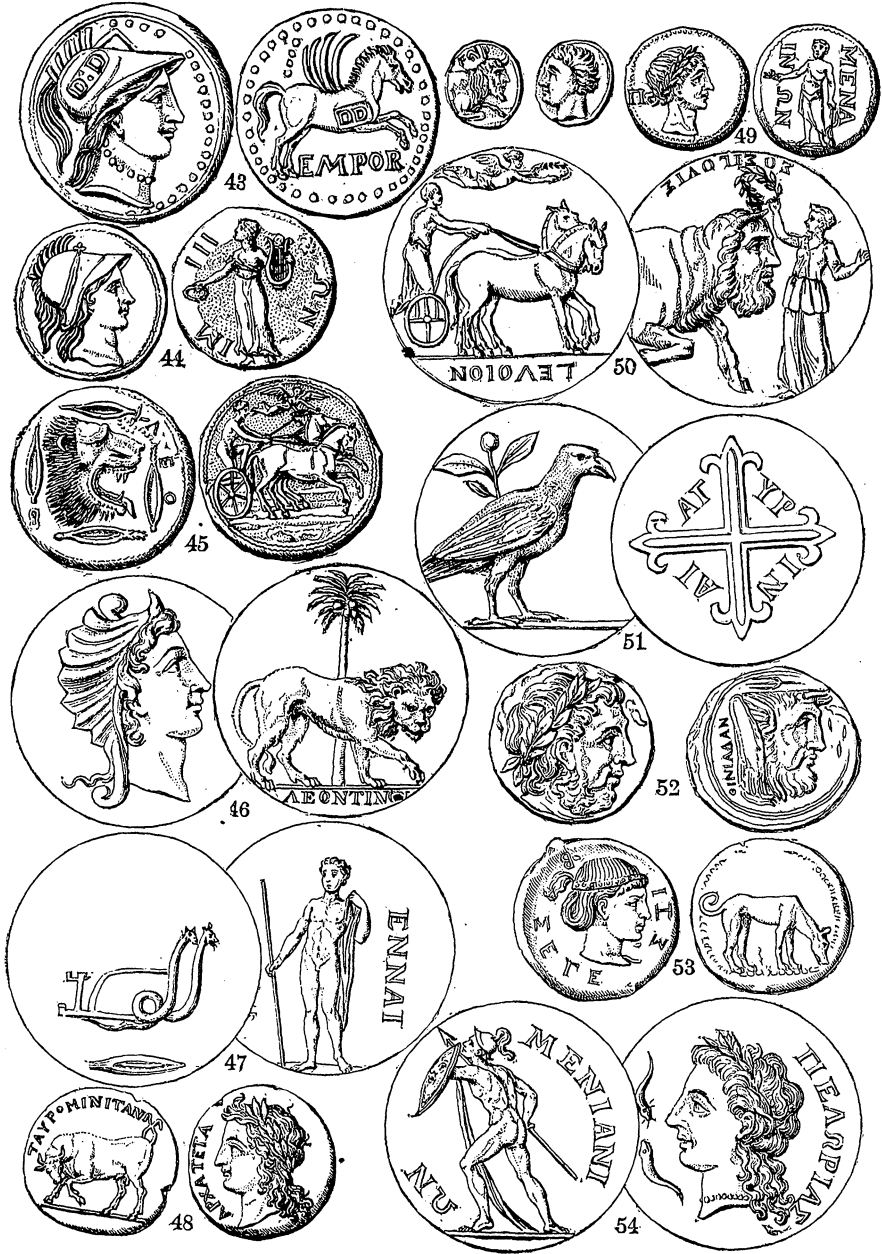
64. TETRADRACHM, of Selinus. Obverse, a nude male standing, holding an offering in the right hand and a thyrsus in the left, a parsley leaf behind, a cock in a cage, and a bull behind; Reverse, two persons in a biga, one with bow and arrow, the other driving. B. C. 550.

65. Silver coin of Camarina. Obverse, a female head, much decorated and with a fish on either side; Reverse Leda seated on a swan, a fish below, etc. B. C. 500.

66. TETRADRACHM, of Camarina, a Greek city in Sicily. Obverse, head of Hercules in a lion's skin; Reverse, Ares driving a quadriga, Nice flying above, a swan flying below. B. C. 500.

67. Bronze coin of Centoripa. Obverse, bearded and laureated head of Zeus; Reverse, a thunderbolt dividing the legend. B. C. 500.

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68. Bronze coin of Cossura, a small island in the Mediterranean, half way between Sicily and Africa. Obverse, a female head, crowned, Eros decorating the front; Reverse, Phœnician legend enclosed with a laurel wreath. B. C. 500.

69. Bronze coin of Aetna, a city in Sicily at the foot of the mountain of same name. Obverse, head of Phœbus Apollo, with radiated crown; Reverse, Ares standing, with spear and shield. B. C. 500.

70. Bronze coin of Ioeta, a town in the interior of Sicily. Obverse, head of Zeus; Reverse, a soldier, standing, right hand extended, left holding a club. B. C. 450.

71. Bronze coin of Melita, an island in the Mediterranean Sea. Obverse, head of Ceres; Reverse, an ornamented tripod dividing the legend. B. C. 400.

72. TETRADRACHM, of Gelon, tyrant of Syracuse. Obverse, head of the tyrant, hair confined with a fillet; Reverse, a biga driven by Nice. B. C. 480.

73. Bronze coin of Liparia, a town in the island of the same name. Obverse, Haphœstus seated on tripod, holding in his extended left hand a cautharus, in the right a malleus; Reverse, six globules surrounded by the legend. B. C. 550.

74. Gold coin of Pyrrhus. Obverse, head of Pallas, the letter A. below; Reverse, Nice laying a wreath on an altar. B. C. 280.

75. Bronze coin of Calacte, a city on the north coast of Sicily. Obverse, head of Apollo; Reverse, his lyre dividing the legend. B. C. 400.

76. GOLD STATER of Pyrrhus, King of Epeirus. Obverse, head of Artemis; Reverse, Nice marching, a thunderbolt in the field. B. C. 280.

77. Silver coin of Agathocles, King of Syracuse. Obverse, fine head of Persephone, wreathed; Reverse, Nice crowning a trophy, a triquetra in the field. B. C. 300.

78. TETRADRACHM of Hieron II, King of Syracuse. Obverse, fine head of Gelon, filleted; Reverse, Nice driving a quadriga. B. C. 220.

79. TETRADRACHM of Hieron II. Obverse, a fine head of Pallas, helmeted; Reverse, a pegasus. B. C. 220.

80. TETRADRACHM of Philistis, supposed queen of Hieron. Obverse, a beautiful female head of Philistis veiled; Reverse, Nice driving a quadriga. Legend "Queen Philistia." Date, B. C. 220.

81. Bronze coin of Panormus. Obverse, a female head, the hair confined by a band; Reverse, head of a horse, the letter A in the field, fronting the neck of the horse. B. C. 500.

82. Bronze coin of Panormus, an important city in Sicily. Obverse, an old male head, bearded and laureated; Reverse, a horse running, three globules in the field. B. C. 500.

83. Bronze coin of Pyrrhus. Obverse, a handsome female head, veiled, a trident behind. Reverse, a thunderbolt dividing the legend. B. C. 280.

84. Bronze coin of Panormus. Obverse, a turreted head of Rhea; Reverse, a horse's head in front of a palm tree. B. C. 500.

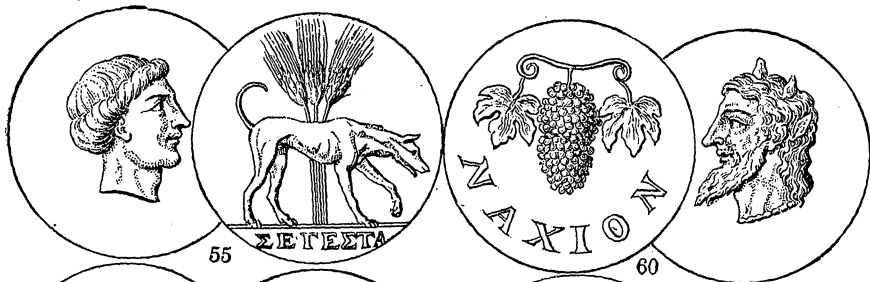
85. Silver coin of Syracuse. Obverse, head of Arethusæ, surrounded by dolphins; Reverse, a man driving a quadriga, Nice crowning the horses. B. C. 500.

86. Bronze coin of Syracuse. Obverse, head of Persephone; Reverse, man driving a biga, the letter *sigma* below, a sun above. B. C. 500.

87. Bronze coin of the city of Catania, in Sicily. Obverse, two bearded head, jugata; Reverse, a nude man standing, dividing the legend. B. C. 480.

88. Bronze coin of Gela. Obverse, a head with the hair erect, a grain of wheat near the border. Indications of the fertility of the region; Reverse a bull. In the exergue, three globules. B. C. 550.

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89. Bronze coin of Agrigentum. Obverse, an eagle with expanded wings, devouring a hare; Reverse, a crab, with two globules above, and a marine horse below. B. C. 550.

90. Bronze coin of Messana, a city in Sicily. Obverse, a hare, running; Reverse, an octopus. B. C. 500.

91. Bronze coin of Solus, a city in Sicily. Obverse, head of Hercules in lion's skin; Reverse, a squill with three globules on and three globules under it. Punic inscription below. B. C. 500.

92. Bronze coin of Hybla, a city in Sicily. Obverse, a head, with bust draped, a bee behind it; Reverse, Dionysus standing, with thyrsus and canthorus, a panther erect before him. B. C. 500.

93. Bronze coin of Megara, a city in Sicily. Obverse, head of Apollo, laureated; Reverse, the tripod of Apollo, dividing the legend. B. C. 500.

94. Bronze coin of Paropi, a city of Sicily. Obverse, fine head of Persephone; Reverse, a wreath of leaves and flowers. B. C. 500.

95. Bronze coin of Gaulos, an island in the Mediterranean Sea, the present Gozzo. Obverse, a helmeted head in a crescent, two globules behind it; Reverse, a soldier standing with sword and buckler, a sun in front. B. C. 500.

96. Bronze coin of Caena, a town in Sicily. Obverse, head of Pallas, two globules above; Reverse, Nice running with a crown in her right and a trophy in her left hand. B. C. 500.

97. DIDRACHM of Terina, a city of Bruttium. Obverse, a fine female head, the neck ornamented with a string of pearls; Reverse, Nice seated, holding on the back of her right hand a bird with extended wings. B. C. 500.

98. TETRADRACHM of Oluntium, a city in Crete. Obverse, head of Diana; Reverse, Zeus seated with hasta and holding an eagle in his hand. B. C. 500.

99. Bronze coin of Cyzicus, a city on the Propontis in Mysia. Obverse, a female head, the hair bound by a stalk of wheat, and three wheat ears around it; Reverse, a caduceus surrounded by a wreath. B. C. 500.

100. Silver coin of Heraclea, a city in Lucania. Obverse, head of Pallas in armor; Reverse, Hercules strangling a lion, his bow and club in the field. B. C. 500.

101. Bronze coin of Eleutherna, a town of great importance in Crete. Obverse, head of Apollo, laureated; Reverse, Apollo seated on a lyre, holding in his right hand a globe. B. C. 500.

102. TETRADRACHM of Alexander The Great. Obverse, head of Hercules, with lion's skin over it; Reverse, Zeus seated with hasta and an eagle standing in his right hand. B. C. 320.

103. GOLD STATER of Alexander III, The Great; who died B. C. 323. Obverse, head of Pallas; Reverse, Nice holding a trident and a crown for the victor; in the field a caduceus.

104. GOLD STATER of Philip II, King of Macedonia, who died B. C. 336. Obverse, head of Apollo; Reverse, the king driving a biga.

105. GOLD STATER of Lysimachus, King of Thrace, who died B. C. 281. Obverse, head of the king in the character of the Ammonian Jupiter; Reverse, Pallas holding Nice in her outstretched hand.

106. TETRADRACHM of Lysimachus. This coin bears emblems and inscriptions similar to those on the gold stater No. 118.

107. GOLD STATER of Selencus, King of Syria, who died B. C. 280. Obverse, head of the king in the character of Apollo; Reverse, Apollo standing with a bow in his left hand and an arrow in the right.

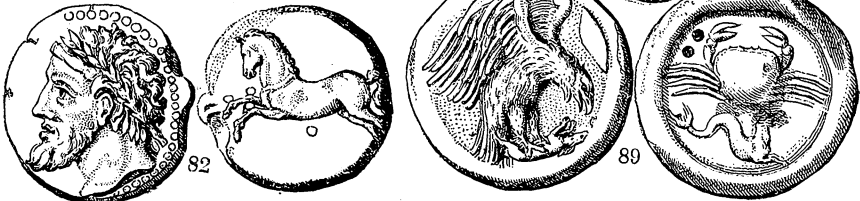
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108. **GOLD STATER** of Ptolemy, Soter, King of Egypt, who died B. C. 283. Obverse, head of king; Reverse; Jupiter driving a quadriga of elephants.
109. **TETRADRACHM** of Ptolemy, Soter. Obverse, head of the king; Reverse, an eagle standing on a fulmen, or thunderbolt. B. C. 285.
110. **TETRADRACHM** of Macedonia. Obverse, head of Artemis surrounded by Macedonian shields; Reverse, club of Hercules dividing the legend, both encircled by a wreath. About B. C. 400.
111. Bronze coin of Seleucus IV, King of Syria, who died B. C. 175. Obverse, head of the king, the hair confined with a fillet; Reverse, prow and fore part of a ship, dividing the legend.
112. Bronze coin of Tigranes, King of Armenia, who died B. C. 69. Obverse, head of the king wearing a tiara; Reverse, a female seated, holding a cornucopiæ in one hand and a wreath in the other.
113. **TETRADRACHM** of Mithridates VI, King of Pontus, who died B. C. 63. Obverse, head of the king; Reverse, a pegasus dividing the legend, and surrounded with a wreath.
114. **TETRADRACHM** of Antiochus I, who died B. C. 216. Obverse, his head; Reverse, Apollo seated on a Cortina, holding in one hand a bow and in the other an arrow.
115. **TETRADRACHM** of Antiochus IV, King of Syria, who died B. C. 164. Obverse, portrait of the king; Reverse, an eagle standing on a fulmen, dividing the legend.
116. **TETRADRACHM** of Seleucus VI, surnamed Epiphanes, who died B. C. 94. Obverse, his portrait; Reverse, Pallas with spear in one hand and Nice in the other.
117. **TETRADRACHM** of Alexander I (Balas), B. C. 152-144, struck at Tyre; date, year 163 of Seleucid Era, B. C. 149. Obverse, portrait; Reverse, Eagle with club of Hercules in front.
118. Bronze coin of Ptolemy II, surnamed Euergetes, King of Egypt, who died B. C. 222. Obverse, head of Jupiter Ammon; Reverse, an eagle on a fulmen—the Ptolemaic emblem.
119. **TETRADRACHM** of Philetærus, founder of the Kingdom of Pergamus, who died B. C. 263. Obverse, head of the king; Reverse, Pallas seated, offering a wreath, in the field a sword.
120. **TETRADRACHM** of Ptolemy V, surnamed Epiphanes, King of Egypt, who died B. C. 181. Obverse, head of the king; Reverse, Eagle on fulmen.
121. **TETRADRACHM** of Ptolemy VII, Euergetes II, known as Physcon, who died B. C. 117. Obverse, head of the king; Reverse, Eagle on fulmen.
122. Bronze coin of Berenice, wife of one of the Ptolemys of Egypt. Obverse, head of the queen, with covering extending over the bust; Reverse, a cornucopiæ surrounded by the legend.
123. **TETRADRACHM** of Nicomedes III, Philopator, King of Bithynia, died B. C. 74. Obverse, head of the king; Reverse, Zeus discharging a thunderbolt from his left hand and holding hasta in his right.
124. **GOLD STATER** of Pharnaces, King of Pontus, who died about B. C. 170. Obverse, head of the king; Reverse, Apollo seated, a lyre behind and a tripod in front of him.
125. **GOLD STATER** of Cyrene, a city of great importance in northern Africa. Obverse, Nice driving a quadriga; Reverse, Zeus standing with hasta and holding a patera over an altar. B. C. 500.

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HISTORICAL COIN ATLAS OF THE ROMAN EMPIRE.

Pieces of all Emperors, Empresses, Tyrants and Kings.



HISTORICAL COIN ATLAS OF THE ROMAN EMPIRE.

Pieces of all Emperors, Empresses, Tyrants and Kings,

FROM JULIUS CÆSAR B. C. 70, TO THE EXTINCTION OF THE WESTERN
EMPIRE, A. D. 476.

1. **Cæsar, Caius Julius**, born B. C. 100. Made Perpetual Dictator B. C. 44. Murdered by Pompey and Senators, March 15th of same year. One of the most noted characters in history, distinguished by extraordinary genius and attainments in the most diversified pursuits.

2. **Augustus, Caius Octavius Cæpeas**, first Emperor of the Roman Empire. Born B. C. 63. Declared Emperor B. C. 29. Died A. D. 14. Coins represent him with Julius Cæsar, Lepidus, Agrippa, Tiberius, Julia, Caius and Julius and Germanicus. A wise and moderate ruler.

3. **Tiberius, Claudius Nero Cæsar**, born B. C. 42. Son-in-law of Augustus Cæsar A. D. 4. Emperor A. D. 14. Smothered by order of Caligula A. D. 37. His reign exhibits every variety of detestable actions.

4. **Drusus, Nero Claudius**, afterwards **Germanicus**, born B. C. 15. Cæsar A. D. 4. Poisoned A. D. 19. A noble prince, a grand general, a good and brilliant man.

5. **Antonia**, born B. C. 38. Wife of Drusus Senior. Poisoned by her grandson Caligula A. D. 37. Beautiful, virtuous and unfortunate. High honors were paid to her memory.

6. **Drusus Cæsar, or Junior**, son of Tiberius. Born B. C. 13. Poisoned by his wife A. D. 32. Consul A. D. 15 and 21. Tribunica Potentis A. D. 22. Naturally noble but degraded by gross passions,

7. **Germanicus Cæsar**, son of Nero Claudius Drusus. Born B. C. 15. Cæsar A. D. 4. Poisoned A. D. 19. A great soldier, a chaste, temperate and much beloved man and Consul.

8. **Agrippina**, wife of Germanicus Cæsar. Born B. C. 15. Starved to death in banishment by Tiberius A. D. 33. A noble woman.

9. **Caius, or Caligula**, son of Germanicus and Agrippina. Born A. D. 12. Emperor A. D. 37. Killed A. D. 41. A beast in human form.

10. **Claudius I, Drusus Nero Germanicus**, born B. C. 10. Emperor A. D. 41. Poisoned A. D. 54. Industrious and diligent, but a failure through want of judgment and tact.

11. **Nero**, originally **L. Domitius Ahenobarbus** Born A. D. 37. Younger son of Cnæus Domitius Ahenobarbus and Agrippina. His mother afterwards married her uncle, Emperor Claudius, who adopted Nero and changed his name to Claudius Cæsar Drusus Germanicus. Emperor A. D. 54. Killed himself A. D. 68. A monster, probably the vilest character in history.

12. **Galba Ser. Sulpicus**, born B. C. 3. Emperor A. D. 68. Killed by his soldiers A. D. 69. A man of excellent qualities, but over severe and avaricious.

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13. **Otho. M. Salvius**, born A. D. 32. Emperor A. D. 69. Being conquered by Vitellius, he killed himself the same year. A companion of Nero, he imitated all the vices of that tyrant.

14. **Vitellius Aulus**, born A. D. 15. Emperor A. D. 69. Killed by Vespasianus' soldiers the same year. He had a little learning, but great talent for eating, drinking, debts and debaucheries.

15. **Vespasianus T. Flavius Sabinus**, born A. D. 9. Emperor 69. Died 79. By birth of mean condition, he rose by merit as a soldier and statesman. He was frugal, temperate and amiable, but too avaricious.

16. **Domitilla, Flavia**, the first wife of Vespasianus. She died before her husband became Emperor, and the coins bearing her portrait were struck after her death.

17. **Titus, Flavius Sabinus Vespasianus**, born A. D. 40, son of Emperor Vespasianus and Domitilla Flavia. Emperor A. D. 79. Died A. D. 81. A brave general, a man of learning and a ruler of peculiar excellence.

18. **Julia**, daughter of Titus. Little record and that not good.

19. **Domitianus T. Flavius Domitianus Augustus**, born A. D. 52. Emperor A. D. 81. Assassinated A. D. 96. One of the most cruel tyrants that ever disgraced a throne

20. **Domitia Longina**, the wife of Domitianus, whose record as a woman equals her worthless husband's, whose assassins she urged on to their murderous work.

21. **Nerva M. Cocceius**, born A. D. 32. Emperor A. D. 96. Died A. D. 98. A noble character of strong will and great administrative power. He received the honor of deification.

22. **Trajanus M. Ulpus**, born A. D. 52. Cæsar and Emperor with Nerva A. D. 97. Sole Emperor A. D. 98. Died A. D. 117. One of the most distinguished of Roman rulers.

23. **Plotina, Pompeia**, died A. D. 129. Wife of Trajan. A woman justly honored for her extraordinary merits and high character.

24. **Marciana**, died A. D. 115. Sister of Trajan. Remarkable for her virtues and talents. After her death she was enrolled among the gods.

25. **Matidia**, daughter of Marciana. Honored in her life-time, deified after her death, which occurred in the reign of Antonius.

26. **Hadrianus, P. Aelius**, born A. D. 76. Adopted by Trajan and his son-in-law. Trajan adopted him A. D. 117 and he was declared Emperor the same year. Died A. D. 138. A good ruler and successful soldier whose virtues overbalanced many defects in his character.

27. **Sabina**, wife of Hadrian, honored in life and death, but unhappy in her matrimonial relations. She committed suicide about A. D. 137.

28. **Ælius**, adopted by Hadrian about A. D. 136, with the name of Cæsar. Died A. D. 138.

29. **Antonius, Pius**, in early life Titus Aurelius Fulvus Boionius Arrius Antonius. Born A. D. 86. Adopted by Hadrian and declared Emperor, A. D. 138. Died A. D. 161. A most exalted and wise character in private and public life.

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30. **Faustina, Senior, Annia Galeria.** Born A. D. 105. Died A. D. 141. She was in every way unworthy of her great husband, but notwithstanding the utter profligacy of her life, he loaded her with honors before and after her death.

31. **Marcus Aurelius Antoninus,** Born A. D. 121. Adopted by and son-in-law of Antonius Pius, Emperor A. D. 161. Died A. D. 180. A wise, learned and just man. Commonly distinguished as "the Philosopher."

32. **Faustina, Junior, Annia,** daughter of Faustina, Senior, and as thoroughly abandoned to ill deeds as was her mother. She was married A. D. 145 or 146 to Marcus Aurelius, who either through good nature or blindness, ignored her vile acts, cherished her living and honored her after death in 175.

33. **Verus, Lucius Aurelius,** Born A. D. 130. Son of Ælius Cæsar, son-in-law of Marcus Aurelius and associated with him in the empire A. D. 161—169. His original name was L. Ceionius Commodus. Died by poison, A. D. 169. During his life he shared the honors worthily of Marcus Aurelius.

34. **Commodus, L. Aurelius.** Born A. D. 161, son of Marcus Aurelius and Faustina, Jr. Named Cæsar A. D. 166. Associated in empire A. D. 176. Named Augustus 177, sole emperor 180. Died from strangulation and poison 192. A miserable man and ruler, cruel, corrupt and dissolute.

35. **Crispina,** wife of Commodus, unfaithful, divorced, banished to Capreae and put to death.

36. **Pertinax, Helvius.** Born A. D. 126, Emperor A. D. 193. Assassinated after a reign of 87 days in consequence of his firmness in insisting upon reforms in the army and State.

37. **Julianus, M Didius Salvius,** afterwards M. Didius Commodus Severus Julianus. Born A. D. 133. Declared Emperor A. D. 198. Assassinated after reigning 66 days. A good soldier, but unscrupulous and ambitious. He bought the supreme power by promises of money to the soldiers.

38. **Clara, Didia,** daughter of Julianus. Born A. D. 153; only known through her effigy, or rare occasional coins.

39. **Niger, C. Pescennius.** Declared Emperor by the army in Syria, A. D. 193. A good soldier, no statesman, he could not secure the power; was put to death as a rebel A. D. 194.

40. **Severus, L. Septimus.** Born A. D. 146, Emperor 193. Master of the whole Empire 197; died 211. An admirable general and reformer, but cold and ungenerous.

41. **Domna, Julia,** wife of Septimus Severus. A woman of powerful intellect and vast ambition. Starved herself to death A. D. 217, upon loss of power.

42. **Albinus, Clodius,** or Decimus Clodius Ceionius Septimus. Born in Africa; named Cæsar by Septimus Severus A. D. 193, rebelled and took title of Emperor of Britain and Gaul 196; defeated and killed by Septimus Severus 197. A great general and man of some learning.

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43. **Caracalla** or **Caracallus**, also Bassianus, and when adopted by Severus, called *M. Aurelius Antoninus* which last name he retained ever after. Born A. D. 188. Named Cæsar 196; Augustus 198; Emperor with his brother Geta 211; sole Emperor 212. Assassinated 217. A bold, bad man whose life is stained with all crimes.

44. **Plautilla, Fulvia**. Married to Caracalla A. D. 202; soon banished, left destitute and finally murdered by order of her husband.

45. **Geta, L** or **P. Septimus**. Born A. D. 189. Brother of Caracalla. Named Cæsar 198; Augustus 209. Emperor with Caracalla 211 and assassinated by him, while in the arms of his mother, A. D. 212. A far better character than his murderer though with many vices,

46. **Macrinus M. Opelius** (or **Opilius**) **Macrinus**. Born A. D. 164. Proclaimed Emperor 218. Killed 219. A haughty, blood-thirsty, inhumanly cruel coward. He was the instigator of the murder of Caracalla.

47. **Diadumenianus** or **Diadumenus M. Opelius**, son of Macrinus. Born A. D. 208. Named Cæsar and Augustus 217. Killed 218. Celebrated for his remarkable beauty.

48. **Elagabalus**, originally called Varius Avitus Bassianus, and afterwards **Marcus Aurelius Antonius**. Born A. D. 205; declared Emperor 218. Killed 222. A glutton and all that was bestial, his name has passed into a proverb.

49. **Paula, Julia Cornelia**. Married to Elagabalus A. D. 219, divorced the next year. Died in private life.

50. **Maesa, Julia**, grandmother of Elagabalus and Alexander Severus. One of the most able and strong minded women of history; ambitious and unscrupulous but wise and polite.

51. **Julia Soaemias**, mother of Elagabalus. Killed A. D. 222. She was the first woman who took a place in the Roman Senate. Her life was not pure and her body was subjected to every indignity after death.

52. **Mamaea, Julia**, mother of Alexander Severus. A woman of strong character, devoted to her son. Her advice caused the revolt in the army, A. D. 235, in which both mother and son were killed.

53. **Severus, M. Aurelius Alexander**, usually called Alexander Severus. Born A. D. 205. Killed 235. A brave soldier, a pure, just man, but too much under control of his mother.

54. **Orbiana, Sallustia Barbia**, one of the three wives of Alexander Severus. Known only through effigies on coins.

55. **Maximinus I., C. Julius, Verus**. Born A. D. 173, of low parentage. Of immense strength and gigantic stature, (over 8 feet). He became conspicuous in the army and rose to be Emperor A. D. 235. He was assassinated with his son, 238. A brute in every respect.

56. **Maximus Caesar, C. Julius Verus**, son of Maximinus, shared in a lesser degree, the honors gained by his father, and was murdered with him A. D. 238. A promising young man.

57. **Gordianus I, M Antonius**, surnamed **Africanus**. Born A. D. 158. Proclaimed Emperor in Africa 238, and was acknowledged by the Senate, but unable to quell a revolt, he killed himself after a reign of about forty days.

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58. **Gordianus Africanus II**, eldest son of G. A. I. Born A. D. 192. Associated with his father in the purple and perished in battle against the rebels on the same day. Both father and son bear noble characters in history.

59. **Pupienus Maximus, Marcus Clodius**. Born A. D. 164. Made Emperor with Balbinus 238. Killed three months after.

60. **Balbinus, Decimus Carilius**. Born A. D. 178. Associate Emperor with Pupienus. 238. An excellent combination of an able general and sagacious statesman. He and his brother ruler perished by assassination three months after their elevation to supreme power.

61. **Gordianus III, M. Antonius**, grandson of G. A. I. Born A. D. 222. Proclaimed Augustus 238. Assassinated 244. An amiable young man, deservedly well beloved.

62. **Tranquillina, Sabnia**, or **Sabnia, Furia**, wife of Gordianus III and daughter of Mithreus. No record.

63. **Philippus I, M. Julius**. Born A. D. 204. Emperor 244. Killed 249. A successful warrior and ruler. By some authors, claimed to have been a Christian.

64. **Otacia Severa, Marcia**, wife of Philippus I. Believed by many ancient writers to have been a Christian.

65. **Philippus II, M. Julius**. Born A. D. 237. Cæsar 244. Associated with his father as Augustus, 247, and killed with him when but twelve years of age.

67. **Decius, C. Messius Quintus Trajanus Decius**. Born A. D. 201. Emperor 249; drowned in a bog, 251. He accepted the purple from the army under threats of death if he refused.

67. **Etruscilla, Herennia**, wife of Decius. Known only from her coins.

68. **Etruscus, Herennius**, son of Decius. Named Cæsar A. D. 249. Augustus 251. Killed in battle the same year.

69. **Hostilianus**, son, son-in-law or nephew of Decius [authorities differ.] Associated in the purple with Trebonianus Gallus, A. D. 251. Reported to have died the same year and also to have reigned two years.

70. **Gallus, Trebonianus, C. Vibius**. Joint ruler with Hostilianus. Killed with his son, by his soldiers, A. D. 253.

71. **Volusianus**, son of Gallus. Named Cæsar A. D. 251. Augustus 252. Killed with his father.

72. **Aemilianus, Aemilius**. Born A. D. 208. Proclaimed Emperor in Mæsia, 253. Killed by his soldiers 254.

73. **Valerianus, P. Licinius**. Born A. D. 190. Emperor 253. A great soldier, called upon to rule on account of his high merit. He was captured by the Persians 260, and died in captivity from cruel treatment, 263. After death his skin was stuffed and preserved as a trophy by his enemies.

74. **Mariniana**; wife, sister or daughter of Valerianus. Known only by her coins.

75. **Gallienus, P. Licinius Valerianus Egnatius**; son of

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Valerianus by his first wife. Emperor with his father A. D. 253. Assassinated 268. A contemptible character. It was during this reign that the many generals declared themselves Emperors, and these are designated as *The Thirty Tyrants*.

76. **Salonia, Cornelia**, Augusta, wife of Gallienus, mother of Saloninus.

77. **Valerianus, Junior**, half brother of Gallienus, and a happy opposite in character. Assassinated A. D. 268.

78. **Saloninus, P. Licinius Cornelius**, son of Gallienus. Born A. D. 242. Cæsar 253. Put to death 259.

79. **Postumus, M. Cassianus Latinus**. One of The Thirty Tyrants. Rebelled against Gallienus, and proclaimed himself Emperor in Gaul A. D. 258. He was a strict but just ruler while he reigned. Killed 267.

80. **Victorinus, M. Prævonnus**. One of the Thirty Tyrants, was associated with Postumus in the purple. A superior general and statesman, but a slave to his passions. Assassinated A. D. 267.

81. **Marius, M. Aurelius**. Emperor in Gaul, A. D. 267. The fourth of the Thirty Tyrants who ruled Gaul. His reign lasting for forty-eight hours, when he was assassinated. His coins must have been minted before he assumed power.

82. **Tetricus, C. Pesuvius**. The last of the Thirty Tyrants who governed in Gaul, where he was proclaimed Emperor, A. D. 267. He restored the provinces to Aurelian in 273, by betraying his army in battle to that ruler, and soon after retiring to private life he died at a very advanced age.

83. **Tetricus, C. Pesuvius Pivesus**. Proclaimed Cæsar while a child; son and successor of C. Pesuvius Tetricus, one of the Thirty Tyrants, who ruled from A. D. 267, until conquered by Aurelian, about A. D. 274.

84. **Macrianus, Senior**. One of the Thirty Tyrants. A brave soldier, defeated and killed in battle by Aureolus, A. D. 262.

85. **Macrianus, Junior**, son of the preceding. Flourished during the latter years of his father, shared his power and met with the same fate

86. **Claudius II, M. Aurelius Claudius, Gothicus**. Born A. D. 214. Emperor A. D. 268. Died 270. A great warrior, a wise ruler. He endeavored to re-establish honest coinage and issued money of copper, plated or silvered over.

87. **Quintillus, M. Aurelius**. Emperor A. D. 270, reigned but a few weeks, when, deserted by his soldiers he killed himself. He bears a high character in history.

88. **Aurelianus, Valerius, or L. Domitius**. Born A. D. 270. Emperor A. D. 270. Treacherously killed A. D. 275. A victorious soldier and able ruler, the history of his reign is most brilliant.

89. **Severina, Ulpia**, wife of Aurelianus, seems to have been worthy her great spouse. Medals and coins were struck in her honor, and prove that she survived her husband.

90. **Vabalathus, Athenodorus**, son of Zenobia, Queen of Palmyra. He was made Emperor in Syria A. D. 266, and captured by Aurelian 273. Certain of his coins bear the face of Aurelian on the obverse.

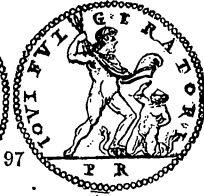
ANCIENT ROMAN COINS.



ANCIENT ROMAN COINS.

91. **Tacitus, M. Claudius.** Emperor from Sept. A. D. 275 to April 276. A wise ruler, not ambitious of military glory, but a promoter of all peaceful arts.
92. **Florianus, M Annius.** Born A. D. 232. Half-brother of Tacitus, at whose death he assumed supreme power, ruling from April to June or July 267, when he was killed either by the revolting soldiers or his own hand.
93. **Probus, M. Aurelius.** Born A. D. 232. Son of Maximus. Emperor from 276 to 282, when murdered. His whole reign was a series of most brilliant achievements in peace and war.
94. **Carus, M. Aurelius.** Born A. D. 230. Successor to Probus. Reported killed by lightning 283, but probably murdered. More successful in war than peace. Some coins represent him with Carinus his son.
95. **Carinus M. Aurelias,** eldest son of Carus. Born A. D. 249. Emperor 283. Killed 284. Successful in war, a cruel, profligate and wasteful ruler, who married and repudiated nine wives.
96. **Numerianus, M. Aurelias,** brother of Carinus. Born A. D. 254. Cæsar 282. Augustus 283. Died 284. His father-in-law, Arrius Aper, was killed on suspicion of murdering him. A wise and much beloved ruler.
97. **Diocletianus, Valerius.** Born A. D. 245. Emperor 284. Adopted Galerius 292; abdicated 305. Died 313. Of most obscure parentage, he rose by merit, and well deserved all the honors he gained. But he terribly persecuted the Christians.
98. **Maximianus II. Hercules.** Born A. D. 250. The son of a shepherd. Associated in the Empire with Diocletian in 286; abdicated 305; retook the Empire, 306; abdicated again 308; proclaimed himself Emperor once more, 309; strangled himself, 310. A distinguished general and bad man, a relentless persecutor of the Christians.
99. **Carausius, M. Aurelius Valerius.** Emperor in England A. D. 287. Assassinated 293. A remarkable man, who rose from most lowly beginnings. He forced his powerful enemies to become his allies, and in all acts showed the greatest vigor and prudence.
100. **Allectus.** Emperor in England A. D. 293, by his murder of Carausius. Killed 296. A vile character.
101. **Julianus, Marcus Aurelianus.** Governor of Venetia in Italy. Usurped the Imperial power A. D. 284, was conquered and killed 285.
102. **Constantius I. surnamed Chlorus, Flavius Valerius.** Born A. D. 250. Emperor 305 with Galerius, the former being placed over Gaul, Britain and Spain. He was a wise and just ruler and treated Pagans and Christians with impartiality and toleration. Died 306.
103. **Helena, Flavia Julia** Born about A. D. 248. Wife of Constantius I, and mother of Constantine the Great. She was divorced through State Policy. A noble lady and true Christian, she died in 328, and honors were showered upon her memory.
104. **Theodora, Flavia Maximiana,** second wife of Constantine Chlorus, for whom he repudiated Helena.
105. **Maximianus II, Galerius Valerius.** Adopted and named Cæsar by Diocletian, A. D. 292. Augustus and Emperor 305. Died 311.

ANCIENT ROMAN COINS.



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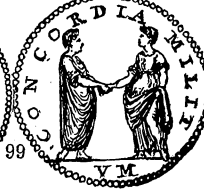
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106. **Galeria, Valeria**, daughter of Diocelitian, second wife of Maximianus II. She and her mother were beheaded by order of Licinius, A. D. 315.

107. **Severus, Flavius Valerius**. Named Cæsar by Maximianus Hercules, A. D. 305; Augustus and Emperor 306. Compelled to put an end to himself A. D. 307.

108. **Maximinus, Galerius Valerius**. Original name Daza, nephew of Galerius. Named Cæsar A. D. 305; assumed the title of Emperor 308. Died of despair or poison 313. A violent, undeserving and ungrateful man.

109. **Maxentius, M. Aurelius**, son-in-law of Galerius. Emperor A. D. 306. Drowned in the Tiber 312. A monster of rapacity, cruelty and all other vices.

110. **Urbica, Magnia**. Only known by her coins. By some supposed to be the wife of Maxentius, by others, assigned to Carus, and by others to Carinus. The coin is pronounced by certain authorities to be a forgery.

111. **Romulus**, son of Maxentius. Born about A. D. 306; named Cæsar 307; Augustus soon after. Died while a boy.

112. **Nigrinianus**. A Roman Cæsar or Augustus. Known only by his coins. It has been conjectured by some that he was the son of Alexander, a usurper of Africa A. D. 311, by others that he was the son of Carus.

113. **Licinius; Publius Flavius Galerius Valerius Licinianus**. Born A. D. 263, of peasant parents. Gained friends and rank in the army; married the daughter of Constantius Chlorus. Named Cæsar and Augustus and Emperor with Galerius Maximianus 307. Prisoner of his brother-in-law Constantine, and strangled 323. A cold blooded tyrant.

114. **Constantinus I., Flavius Valerius Aurelius**, surnamed **Magnus**, or "The Great." Born A. D. 274. Son of Constantius Chlorus and Helena, son-in-law of Maximianus Hercules. Proclaimed Cæsar and Augustus in Britain 306, and Augustus by Maximianus 308. In 311 he embraced the Christian religion. Became sole Emperor 323. Quitted Rome in 330, for Byzantium, which he named Constantinople. Died 337.

115. **Fausta, Flavia Maximiana**. Married to Constantine I. A. D. 307. Caused the death of her step-son, and some historians say, was smothered to death in a warm bath by her husband's order, 326.

116.

117. **Licinius, Junior, Flavius Valerius Licinianus**, son of Licinius I. Born A. D. 315. Made Cæsar 317. Stripped of all honors and put to death 326.

118. **Crispus, Flavius Julius**, son of Constantine I. Born about A. D. 300. Named Cæsar 317. Gained glory in battle. Put to death by his father, at the instigation of his step-mother 326.

119. **Delmatius, Flavius Julius**, nephew of Constantine I. Named Cæsar A. D. 335. Killed 337.

120. **Constantinus II., Flavius Claudius**, surnamed **The Younger**, son of Constantine I. Born A. D. 312. Named Cæsar 316. Ruler of Gaul, Spain and England 335. Emperor and Augustus 337. Defeated and killed in battle 340.

ANCIENT ROMAN COINS.



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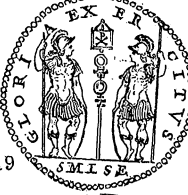
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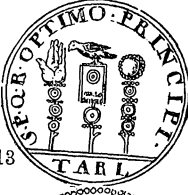
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121. **Constans I., Flavius Julius**, youngest son of Constantine I. Born A. D. 320. Named Cæsar 333. Emperor 340. Killed by revolting soldiers 350. An indolent, weak and profligate man.

122. **Magnentius, Flavius Popilius**. Born about A. D. 303. Revolted against Constans I. Proclaimed Emperor 350. Killed himself 353.

123. **Decentius**, brother or cousin of Magnentius. Named Cæsar A. D. 351. Strangled himself 353.

124. **Vetranio**. An old General. Proclaimed himself Emperor A. D. 350; abdicated in ten months. Died 356.

125. **Constantius II., Flavius Julius**, third son of Constantine I. Born A. D. 317. Created Consul 324. Emperor 350. Died 361. An artful tyrant.

126. **Julianus, Flavius Claudius**, surnamed "**The Apostate.**" Born A. D. 331. Son of Julius Constantius. Named Cæsar 355. Sole Emperor 361. Killed in battle 363. In talents, principles and deeds, an extraordinary man.

127. **Jovianus Flavius Claudius**. Born A. D. 331. Emperor 363. Died 364. Professed himself a Christian and put that religion on a legal basis.

128. **Valentinianus I.** Born A. D. 321. Emperor 364. Died 375. He maintained the Catholic faith and forbade all Pagan ceremonials under penalty of death.

129. **Valens**, brother of Valentinianus I. Born about A. D. 328. Emperor of the East 364. Persecuted the Catholics, and was himself burned to death by Barbarians 378.

130. **Gratianus, Aug.**, son of Valentinianus I. Born A. D. 359; made Consul 366; Augustus 367; Emperor 375. Killed 383. A pious, chaste and temperate man, but wanting in firmness.

131. **Maximus, Magnus Clemens**. Assumed the name of Augustus in Britain A. D. 383; acknowledged Emperor, seized upon Italy 387. Captured and decapitated 388.

132. **Victor, Flavius**, son of Maximus Magnus. Named Augustus A. D. 383. Put to death 388.

133. **Valentinianus II., or Junior**, son of Valentinianus I. Born A. D. 371. Named Augustus and associated in the Empire 375. Emperor of all the West 383. Assassinated 392.

134. **Theodosius I.**, surnamed "**The Great.**" Born A. D. 346. Named Augustus and associated in the Empire by Gratian in 379, his division being the Eastern. Died 395.

135. **Flacilla, Aelia**, first wife of Theodosius I. Died A. D. 385.

136. **Eugenius**. Proclaimed Augustus at Vienna A. D. 392. Put to death two years later by order of Theodosius.

137. **Arcadius**, son of Theodosius I. Born A. D. 377. Named Cæsar 383. Emperor of the East 395. Died 408. A thoroughly incompetent and weak ruler.

ANCIENT ROMAN COINS.



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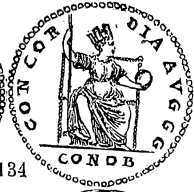
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ANCIENT ROMAN COINS.

138. **Eudoxia, Ælia**, wife of Arcadius. Died A. D. 404 or 406. A woman of high spirit and possessed of great influence over her husband.

139. **Honorius, Flavius Augustus**, second son of Theodosius The Great. Born A. D. 384. Named Augustus 393. Emperor of the West 395. Died 423. A weak ruler, his was a disastrous reign.

140. **Constantinus III., The Tyrant**. Augustus in England and Gaul A. D. 407. Taken prisoner and put to death 411.

141. **Attalus, Priscus**. Made Emperor by Alaric at Rome, A. D. 409. Deprived of his title and resumed it in Gaul 410. Died in banishment on the island of Lipari.

142. **Jovinus**, a Gaulish Captain. Proclaimed Emperor at Mayence A. D. 411. Defeated by Adolphus, the Gothic King, and beheaded 413.

143. **Theodosius II.**, only son of Arcadius. Born A. D. 401. Named Augustus 402. Emperor of the East 408. Died 450. In 438, was published the celebrated *Codex Theodosianus*. He was a weak ruler and his kingdom was managed by others.

144. **Johannes**. Born about A. D. 380. Usurped the purple 423. Conquered and killed 425.

145. **Placidia, Galla**, wife of Constantinus III. Died at Rome A. D. 450.

146. **Valentinianus Placidius**. Born A. D. 419. Emperor 425. Assassinated 455.

147. **Marcianus**, brother-in-law of Theodosius II. Born A. D. 391. Emperor of the East 450. Died 457.

148. **Leo I., Flavius**, surnamed **The Great** and **The Thracian**. Born about A. D. 400, in Thrace. Emperor of the East 457. Died 474. Distinguished by remarkable talents and high moral qualities.

149. **Maximus, Petronis** (Anicius). Born A. D. 395. Assumed the purple 455. Murdered after a reign of about three months.

150. **Severus, Libius**. Proclaimed Emperor of the West at Ravenna, A. D. 461. Died 465.

151. **Anthemius, Procopius**, son-in-law of Marcianus. Emperor of the West A. D. 467. Killed 473.

152. **Glycerius**. Emperor A. D. 473. Dethroned by Julius Nepos 474, and became Bishop of Salona. Died 480.

153. **Nepos, Julius**. The last Emperor but one of the Western Empire. Created Emperor A. D. 474. Was deposed by Orestes and killed 480.

154. **Leo, Junior**. Born A. D. 459, succeeded Leo I. as Emperor of the East, 474. Died after a reign of six months.

155. **Zeno** or **Zenon**, original name Trascalisseus. Born A. D. 426. Son-in-law of Leo I., father of Leo II., and associated with the latter in the Eastern Empire 474. Abdicated 476; regained sovereignty 477. Died 491.

ANCIENT ROMAN COINS.



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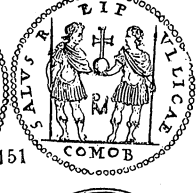
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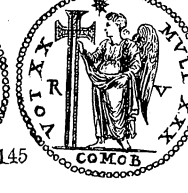
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156. **Basiliscus**, brother-in-law of Leo I. A. D. 476, he drove Zeno from the throne and declared himself Emperor of the East. Zeno, next year conquered and captured him, and with his family he was imprisoned in Cappadocia, and all were starved to death.

157. **Augustulus, Romulus**. The last Roman Emperor of the West. Son of Orestes, who proclaimed him Emperor A. D. 475, after driving out Julius Nepos. Orestes was the actual ruler until he was defeated and killed by Odoacer. Augustulus Romulus, on account of his youth, beauty and innocence, was spared, but exiled to Campania. His ultimate fate is unknown.



JEWISH COINS.



The Jewish people possessed no positive coinage until the time of their subjection to the Kings of Syria, of the Seleucidan dynasty, about B. C. 312, when Greek currency, established throughout the East since the Macedonian conquest, circulated also in Judea, until the tyranny of Antiochus Epiphanes, in B. C. 176, caused the revolt of Mattathias, the chief priest, when his son Judas Maccabeus, heading the revolt, eventually re-established the long lost independence of Judea, and to his successor, Simon, was conceded by Antiochus, the son of Demetrius, the right of coining national money, the earliest of which was issued about B. C. 144, in pieces of one, two, and four silver shekels, bearing different types, all relating to the ceremonial of Judaic worship.

1. SHEKEL of Simon Maccabœus. Obverse, a cup or chalice; legend, "*Shekel of Israel, year 2*"; Reverse, a triple lily; legend, "*Jerusalem the holy.*" B. C. 144.

2. HALF-SHEKEL of Simon Maccabœus. Obverse, similar to No. 1; legend, "*Half-Shekel, year 2*"; Reverse, same as No. 1.

3. Copper coin of Simon Maccabœus. Obverse, two bunches of thickly-leaved branches; legend, "*In the fourth year—one half*"; Reverse, Palm tree between two baskets of dates, etc.; legend, "*The redemption of Zion.*"

4. Copper coin of Simon Maccabœus. Obverse, two bundles of branches; legend, "*In the fourth year—one quarter*"; Reverse, an ethrog; legend, same as on No. 3.

5. A SIXTH OF A SHEKEL, copper, of Simon Maccabœus. Obverse, a cup or chalice; legend, "*The redemption of Zion*"; Reverse, a bundle of branches between two ethrogs; legend, "*In the fourth year.*"

6. Copper coin of Simon, son of Gioras, under the first revolt of the Jews. Obverse, cluster of grapes, with the name "*Simon*," above; Reverse, a pitcher and palm branch; legend, "*Second year of the deliverance of Israel.*"

7. Copper coin of Simon. Obverse, the legend, "*Simon, Prince of Israel*," on either side of a palm tree; Reverse, the legend, "*First year of the redemption of Israel*," around a vine-leaf.

8. Silver coin of Simon Bar-cohab during the second revolt of the Jews. Obverse, legend, "*Simon*," round a cluster of grapes; Reverse, "*The Deliverance of Jerusalem*," around two trumpets. The coin was originally a denarius of Trajan, which has been re-struck.



WIDOW'S MITRE.

MEDIAEVAL COINS.



MEDIAEVAL COINS.



MEDIAEVAL COINS.



of Constantinople, reigned from 582 to 620, when, with all his family, he was murdered by Phocas.

No. 10. TIBERIUS, named Cæsar, with his brother Heraclius, A. D. 659. Associated in the Empire with their brother Pogonatus 668. Killed, 674.

No. 11. MICHAEL II., Emperor A. D. 820. Died 829.

No. 12. MICHAEL III., Emperor A. D. 842. Assassinated 867; the reverse shows Michael and his son Constantinus.

No. 13. LEO III., Emperor A. D. 717. Died 741; and his son Constantinus V.

No. 14. Nicephorus, Emperor A. D. 742. Died 743.

No. 15. ISAACIUS I., surnamed COMMENUS; Emperor A. D. 1057; abdicated 1059; died 1061.

No. 16. THEODORUS I., Emperor A. D. 1204. Died 1222.

No. 17. THEODORUS III., Emperor 1255. Died 1259.

No. 18. CONSTANTINUS and Adronicus, A. D. 1067.

No. 19. WILLIAM, A. D. 1255. Holland.

No. 38. JOANNA, M

No. 39. CATHARIN

No. 40. FERDINAN

and Bohemia.

No. 41. ELIZABET

No. 42. FERDINAN

Archduke Austria, c

No. 43. CAROLUS,

tria.

No. 44. JOANNA M

died 1578. France.

No. 45. BARBARA.

1572.

No. 46. CÆSAR MA

Hungary, etc.

No. 47. ELLIABET

Queen France.

No. 48. WENCESL

Archduke Austria, c

No. 49. CÆSAR R

elected 1575. Germa

No. 50. CÆSAR M

1608. Hungary.



Coins, Current Throughout the World

AND THEIR

VALUATION AT UNITED STATES and ENGLISH STANDARDS.

From the latest governmental reports of all countries possessing metallic currency, their national valuation has been compiled and is here given, computed at the standards of the U. S. and Great Britain; any variation from our *plate* statements, or those on the U. S. Official Table, are in consequence of the calculations being made from the sources mentioned. To purchase goods with this money in the U. S., a loss through discount on the values here given would be sustained; to *buy* the coins, a premium, in some cases very high, would have to be paid.

The nations composing THE LATIN UNION, have equalized their standard for large coins; and the Five Franc pieces of France, Belgium and Switzerland; the Five Lire of Italy, Five Pesetas and Twenty Reals of Spain, Five Drachmi of Greece, Five Boliviars of Venezuela and Peso of Chili, each weigh 385.808 grains, are 900 fine, and contain 347.227 grains of pure silver, worth 72½ cents, U. S., and 3s. 4½d., English standard, the metal being calculated at \$1 per oz., and 4s. 2d. per oz., respectively, and 1000 fine; their current value is 96½ cts. in this country, and 4s. in England. Chili and Venezuela are not of the Union, but their coinage is regulated by its standard.

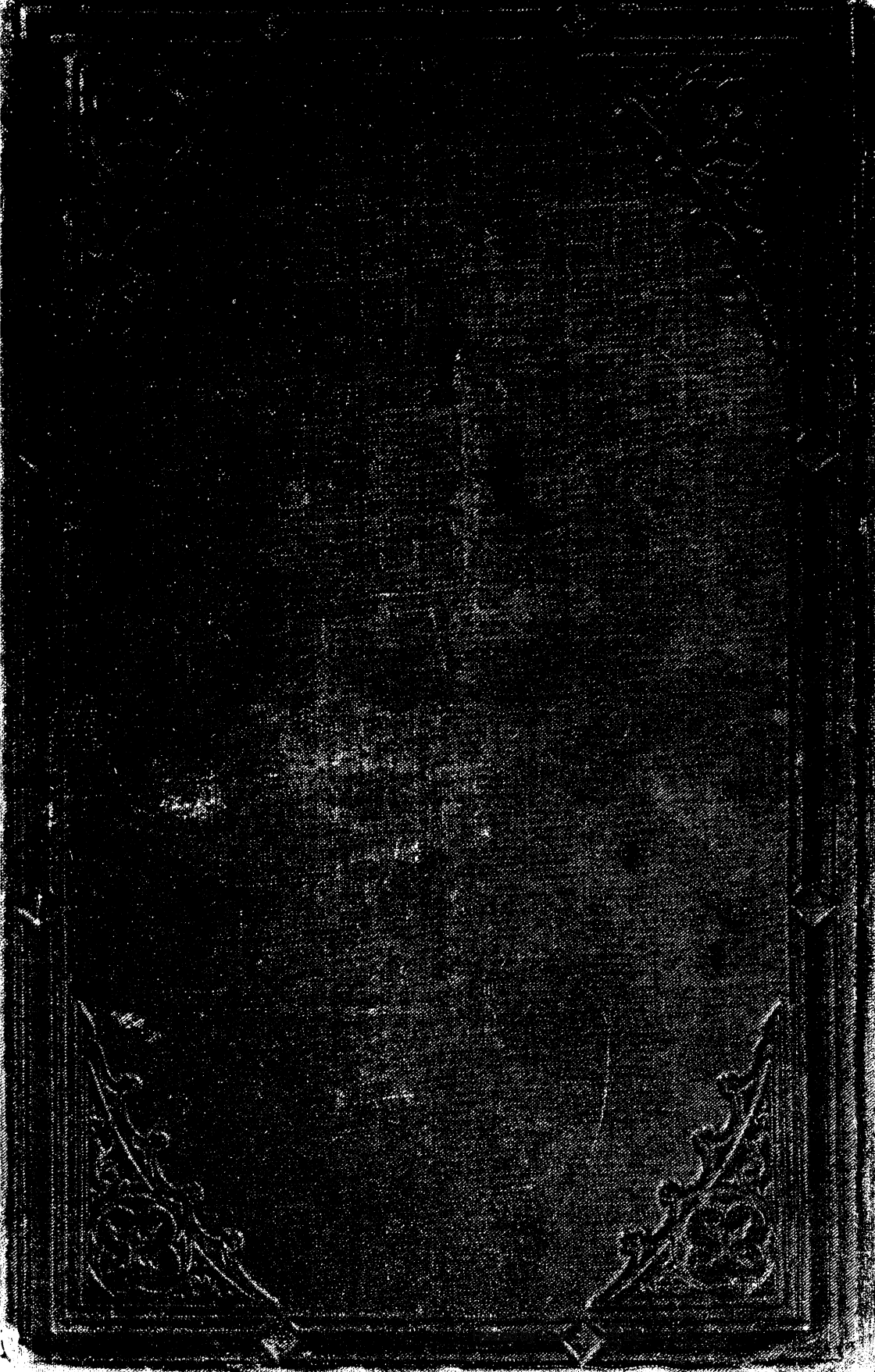
To designate the metal in which these coins are minted, *g*, indicates gold; *s*, silver, and *b*, base, which latter term includes all pieces not struck in gold or silver.

COUNTRY.	COINS.	U. S. VAL.	GT. BRIT. VAL.	COUNTRY.	COINS.	U. S. VAL.	GT. BRIT. VAL.
Abysinia.	Haral, <i>b</i>	\$ 4.34	£ 2s. 17d	Bolivia.	Boliviano, <i>s</i>	\$ 83.60	£ 4s. .50t
	Pataka, <i>s</i>	99.96	4s. 1d		Centavo, <i>b</i>	.83	.42d
Afghanistan.	Kwan, <i>s</i>	66.98	2s. 9.49d		Peso, <i>s</i>	83.60	4s. .50d
	Mas, <i>s</i>	6.69	3.34d		Real, <i>s</i>	9.65	4.82d
	Sapeck, <i>b</i>	.11	.05d	Brazil.	Joao, <i>g</i>	8.71.95	1.15s. 10.75d
Africa (Portugal).	Macutta, <i>s</i>	5.35	2.67d		Milreis, <i>s</i>	54.50	2s. 1.12d
Algiers.	Rial-Boudjou, <i>s</i>	36.10	1s. 6.05d		Patacao, <i>s</i>	1. 6.57	4s. 4.78d
Annam.	Kwan, <i>s</i>	66.98	2s. 9.49d		Roi, <i>b</i>	.05	.02d
	Mas, <i>s</i>	6.69	3.34d	Brunswick.	Pistole, <i>g</i>	3.95.93	16s. 3d
	Sapeck, <i>b</i>	.11	.05d	Burmah.	Bat, <i>s</i>	43.48	2s.
Arabia.	Caveer, <i>b</i>	1.04	.52d		Fuang, <i>s</i>	6.06	3.63d
	Diwana, <i>b</i>	.99	.49d		Sal, <i>s</i>	12.12	6.06d
	Dollar, Mocha, <i>s</i>	83	3s. 5d	Canada and Newfoundland.	Cent, <i>b</i>	1	.50d
	Gass, <i>b</i>	.25	.12d		Dollar, <i>s</i>	1.	4s. 1.50d
	Krush, <i>s</i>	23.85	1s. 2.42d	Central America.	Centavo, <i>b</i>	.83	.41d
	Mahmudi, <i>s</i>	5.09	2.54d		Doubleon, <i>g</i>	14.96.58	3. 1s. .6d
	Plaster, <i>s</i>	83.37	3s. 5.18d		Dollar, <i>s</i>	83.60	4s. .50d
Argentine Republic.	(La)Centavo, <i>b</i>	.95	.48d		Onza, <i>s</i>	14.96.58	3. 1s. .6d
	(Plata.) Onza (1813-32), <i>g</i>	15.51.46	3. 3s. 10.23d		Peso, <i>s</i>	83.60	4s. .50d
	Onza (1833-50), <i>g</i>	14.65.79	3. 4.39d	Chili.	Condor, <i>g</i>	9.12.30	1. 7s. .6d
	Peso Fuerte, <i>s</i>	90.90	4s. 1d		Doubleon, <i>g</i>	4.56.10	18s. .9d
	Real, <i>s</i>	10	.5d		Pescudo, <i>s</i>	1.82.40	7s. .6d
Asia (French).	Cash, <i>b</i>	.32	.16d		Peso, <i>s</i>	91.20	4s. 1d
	Panon, <i>s</i>	5.72	2.86d	China.	Taels,	1.61	6s. 9.50d
Austria.	Ducat, <i>g</i>	2.28.28	9s. 4.75d	Colombia.	U. S. A.		
	(Hungary), <i>g</i>	2.29.16	9s. 5.23d		Bogota, 20 Pesos, <i>g</i>	18.90.20	3.17s. 9.10d
	Quadr'pl., <i>g</i>	9.13.20	1.17s. 7.25d		Centavo, <i>b</i>	.83	.48d
	Florin, <i>g</i>	48.23	2s. 1.50d		Condor, <i>g</i>	9.64.76	1.19s. 7.75d
	<i>s</i>	41.30	2s.		Decimo, <i>s</i>	8.36	4.82d
	New-Kreutzer, <i>b</i>	.41	.20d		Doubleon, <i>g</i>	15.56.10	3. 4s. 9.50d
	Scudo, <i>s</i>	1. 2.60	4s. 2.80d		Medellin, <i>g</i>	9. 1.60	1.18s. 2.50d
	Thaler, Levantine, <i>s</i>	99.96	4s. 1d		Peso, <i>s</i>	93.60	4s.
	<i>s</i>	1. 2.30	4s. 2.15d	Denmark.	Christian d'Or, <i>g</i>	3.95.47	16s. 3d
	Species, <i>s</i>	71.40	3s.		(Crown), <i>s</i>	26.80	1s. 1.22d
	Vereins, <i>s</i>	6.64.20	1. 7s. 3.75d		Frederick d'Or, <i>g</i>	3.95.47	16s. 3d
Azores.	Milreis, <i>s</i>	83.50	3s. 5.50d		Kroner, <i>s</i>	26.80	1s. 1.22d
Baden.	Florin, <i>s</i>	40	1s. 8.50d		Ore, <i>b</i>	.26	.13d
Batavia.	Rix Dollar, <i>s</i>	75	3s. 1d	Dominican Republic.	Centavo, <i>b</i>	.95	.48d
	<i>b</i>	1.56	78d		Gourd, <i>s</i>	1.	4s. 1.50d
Bavaria.	Caroline, <i>g</i>	4.99.20	1. 6.10d		Plaster, <i>s</i>	95	4s.
	D'ld Gulden, <i>s</i>	81.50	3s. 5.12d	Ecuador.	Centavo, <i>b</i>	.83	.41d
	Ducat, <i>g</i>	2.28.76	9s. 4.75d		Peso, <i>s</i>	91.60	4s.
	Florin, <i>s</i>	41	1s. 8.50d		Quadr'pl Escudo, <i>g</i>	7.55.50	1.12s. 1d
	Ludwig d'Or, <i>g</i>	3.43.85	14s. 2d	Egypt.	Asper, <i>g</i>	.04	.02d
	Max d'Or, <i>g</i>	3.34.14	13s. 9.07d		Gersh, <i>b</i>	4.97	2.48d
Belgium.	Centavo, <i>b</i>	.19	.09d		Para, <i>b</i>	.12	.06d
	Franc, <i>s</i>	19.30	9.65d				

COUNTRY.	COIN.	U. S. VAL.	GT. BRIT. VAL.	COUNTRY.	COIN.	U. S. VAL.	GT. BRIT. VAL.
	Plaster, <i>b</i>	4.97	2.48d	Kiran, <i>s</i>	\$ 22.16	£	11.08d
Finland.	Markka, <i>s</i>	19.30	9.75d	Mahmudi, <i>b</i>	.21		1.10d
	Fenni, <i>b</i>	.19	.09d	Pasabah, <i>s</i>	11.08		5.54d
France.	Centime, <i>b</i>	.19	.08d	Ruppes, <i>s</i>	37.2	1s	94d
	Franc, <i>s</i>	19.30	9.75d	Shatree, <i>b</i>	1.10		.55d
	Louis d'Or (1785), <i>g</i>	\$ 4.60 .04	18s. 9.75d	Toman, <i>b</i>	2.21.64		9s. 1d
	" (1800-40), <i>g</i>	3.82.58	15s. 10.25d	Peru. Centavo, <i>b</i>	83		.41d
	" Cash, <i>b</i>	.32	.16d	Sol <i>s</i>	93.60	4s.	
ASIA.	Fanon, <i>s</i>	5.72	2.86d	Pondicherry.			
German Empire.				Moon-Pagoda, <i>g</i>	1.60.15		6s. 07.07d
	Crown, <i>g</i>	2.38	9s. 9.47d	Poland. Zloty, <i>g</i>	11.46		5s. 73d
	Doppelkroner, <i>g</i>	4.76	19s. 6.95d	Portugal. Coroa, <i>g</i>	10.80.00	2. 4s.	5d.
	Krone, <i>g</i>	2.38	9s. 9.47d	Milreis, <i>s</i>	10.80	2. 4s.	1.25d
	Mark, <i>s</i>	23.80	11.90d	Real, <i>b</i>	10		.05d
	Pfennig, <i>b</i>	.23	.11d	Africa. Macutta, <i>s</i>	5.35		2.67d
Germany.				Prussia.			
	Double Thaler, <i>s</i>	1.42.50	6s.	Frederick d'Or, <i>g</i>	4.96		16s. 05.75.d
	Thaler, <i>s</i>	71.40	2s. 11.75d	Roumania.			
	Veisins-Krone, <i>g</i>	6.64.20	£1 7s. 3.75d	Ban Para, <i>b</i>	.19		.09d
	" Thaler, <i>s</i>	71.40	2s. 11.25d	Lei, <i>s</i>	19.30		9.65d
Great Britain.				Leu, <i>s</i>	14		.07d
	Crown, <i>s</i>	1.11.05	5s.	Russia. Deneshka, <i>b</i>	.33		.16d
	Partling, <i>b</i>	.50	.25d	Ducat, <i>g</i>	2.23.34	9s.	4.50d
	Florin, <i>s</i>	48.60	2s.	Grievnik, <i>s</i>	6.69		3.34d
	Guinea, <i>g</i>	5.05.65	1 1s.	Imperial, <i>g</i>	7.97.20	1. 12s.	2.25d
	Penny, <i>b</i>	.02.02	1d	Kopika, <i>b</i>	.65		.33d
	Pound Sterling, <i>g</i>	4.86.65	1	Piacat, <i>b</i>	3.34		.16d
	Shilling, <i>s</i>	24.30	1 1s	Poloo-Imperial, <i>g</i>	3.95.60	16s.	.5d
	Sovereign, <i>g</i>	4.86.65	1	Poltina, <i>s</i>	33.45	1s.	6.50d
Greece.				Poi ushka, <i>b</i>	.16		.08d
	Drachmas (20), <i>g</i>	3.85	4s	Tshetvertak, <i>s</i>	16.72		8.39d
	Drachma, <i>s</i>	19	9.50d	Sandwich Islands.			
	Lepta, <i>s</i>	.19	.95d	Cent <i>b</i>	1		.50d
	Phoenix, <i>s</i>	17.42	8.76d	Dime, <i>s</i>	10		.65d
Hanover.				Dollar, <i>s</i>	1.00	4s.	1.5d
	Ludwig d'Or, <i>g</i>	3.95.98	16s. 3.37d	Saxony.			
Hesse-Darmstadt.				Angust d'Or, <i>g</i>	4.00.98	16s.	5.75d
	Karollin, <i>g</i>	4.99.20	1 6d	Servia. Dinar, <i>g</i>	19.30		9.65d
Hungary.	Ducat, <i>g</i>	2.29.16	9s. 5.25d	Para, <i>b</i>	.19		.08d
India.	Anna, <i>b</i>	2.48	1.24d	Siam. Bat, <i>s</i>	60.46	2s.	6.22d
	Pice, <i>b</i>	.65	.34d	Fuang, <i>s</i>	7.55		3.77d
	Pie, <i>b</i>	.22	.11d	Satung, <i>s</i>	15.11		7.55d
	Rupes, <i>s</i>	39.70	1s. 11.25d	Tical, <i>s</i>	60.46	2s.	6.22d
Ionian Islands.				Spain. Centime, <i>b</i>	.19		.09d
	Obolo, <i>b</i>	.96	.48d	Corona (Isabel), <i>g</i>	50		2s. 1.12d
Italy.	Centesimo, <i>b</i>	.19	.09d	Doublon, <i>g</i>	5.51.60	1. 2s.	7.50d
	Lira, <i>s</i>	19.30	9.65d	Escudo, <i>s</i>	50		.25d
	Sequin, <i>g</i>	2.29.16	9s. 5.83d	Peseta, <i>s</i>	19.30		9.65d
	Sovrano, <i>g</i>	6.77.83	1 7s. 10.25d	Peso Duro, <i>s</i>	96.90	4s.	.45d
	Zecchini, <i>g</i>	2.29.16	9s. 5.83d	Real, <i>s</i>	5		2.50d
Japan.	Itakano, <i>g</i>	2.92.50	12s. .4c	Soudan. Peseta, <i>s</i>	46.80	1s. 11.4d	
	Itzebu, <i>s</i>	36.50	1s. 6.25d	Sweden. Crown, <i>s</i>	26.80	1s.	1.22d
	Kobang, <i>g</i>	4.44.60	18s. 3.30d	Kroner, <i>s</i>	26.80	1s. 1.22d	
	" (Imperial), <i>g</i>	5.79.30	1 3s. 10.15d	Oere, <i>b</i>	.35		.13d
	Yen, <i>s</i>	1.	4s. 1.50d	Switzerland.	99.95	4s.	.50d
	Sen, <i>b</i>	.1	.50d	Centime, <i>b</i>	.19		.09d
	Trade Dollars, <i>s</i>	78	.39d	Franc, <i>s</i>	19.30		9.65d
Liberia.	Cent, <i>b</i>	1	.50d	Rappen, <i>b</i>	.19		.08d
	10 Cent, <i>s</i>	10	.5d	Tripolis. Gersh, <i>b</i>	4.30		2.15d
	25 Cent, <i>s</i>	25	1.25d	Mahnb, <i>s</i>	74.80	3s.	1d
Madras.	Mohur, <i>g</i>	7.06.96	1 9s. 2d	Para, <i>b</i>	.04		.02d
	Star-Pagoda, <i>s</i>	1.84	.83d	Piaster, <i>b</i>	4.22		2.11d
Malta.	Grano, <i>b</i>	.16	.08d	Tunis. Caruba, <i>b</i>	.73		.36d
	Scudo, <i>s</i>	70	2s. 11d	Piaster, <i>s</i>	11.80		5.90d
	Taro, <i>b</i>	3.33	1.66d	Shighien, <i>s</i>	11.80		5.90d
Mexico.				Tukestan. Puls, <i>b</i>	.49		.24d
	Doublon, <i>g</i>	15.52.58	3 4s. 8.25d	Tengra, <i>g</i>	21.93		10.96d
	Peso, <i>s</i>	90.90	4s. 2d	Tilla, <i>g</i>	2.71.55	11s.	2.27d
	Real, <i>s</i>	10	5d	Turkey. Asper, <i>b</i>	.04		.02d
Netherland (Holland).				Ellilik, <i>g</i>	2.19.60	9s.	.30d
	Cent, <i>b</i>	.38	.17d	Gersh, <i>b</i>	4.22		2.11d
	Double Ducat, <i>g</i>	4.56	8.25d	Mirk-Para, <i>b</i>	4.30		2.15d
	" William, <i>g</i>	7.99.40	1 6s. 6.50d	Meditlie, <i>g</i>	4.30		2.15d
	Ducat, <i>g</i>	2.28.34	9s. 4.50d	Para, <i>b</i>	85.68	3s.	6.34d
	Florin, <i>s</i>	40.20	1s. 8.37d	Piaster, <i>b</i>	4.30		2.15d
	Ryder, <i>g</i>	1.31.89	5s. 5.44d	United States of America.			
	Stiver, <i>b</i>	1.50	.75d	Cent, <i>b</i>	1		.50d
Norway.	Crown, <i>s</i>	26.80	1s. 1.22d	Dime, <i>s</i>	10		.5d
	Koner, <i>s</i>	26.80	1s. 1.22d	Dollar, <i>g</i> and <i>s</i>	20.	4s.	1.50d
	Oere, <i>b</i>	.26	.13d	Double Eagle, <i>g</i>	10.	2. 1s.	1d
Paraguay.	Centavo, <i>b</i>	.95	.48d	Eagle, <i>g</i>	10.	1.	6.50d
	Peso, <i>s</i>	95.20	4s. 4.82d	Uruguay. Patacon,	94.98		
	Real, <i>s</i>	9.65	4.82d	Venezuela. Centavos, <i>b</i>	.71	4s.	.3d
Persia.	Abassee, <i>b</i>	4.43	.01d	Peso, <i>s</i>	71.40	2s.	11.70d
	Dinar, <i>b</i>	.02	.01d	Zanzibar.			
	Dinar-Bissee, <i>b</i>	.22	.11d	Dollar Januari <i>s</i>	99.96	4s.	1d
	Kasbequi, <i>b</i>	.11	.05d				

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Century Schoolbook Bold

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News Gothic Bold Reversed

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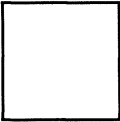
Bodoni Italic

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Greek and Math Symbols

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 6 PT ΑΒΓΔΕΕΘΗΙΚΑΜΝΟΠΦΡΣΤΥΩΧΨΖαβγδεζηκλμνοπφρστνωχψζ≧≦≠><▷◁≡
 8 PT ΑΒΓΔΕΕΘΗΙΚΑΜΝΟΠΦΡΣΤΥΩΧΨΖαβγδεζηκλμνοπφρστνωχψζ≧≦≠><▷◁≡
 10 PT ΑΒΓΔΕΕΘΗΙΚΑΜΝΟΠΦΡΣΤΥΩΧΨΖαβγδεζηκλμνοπφρστνωχψζ≧≦≠><▷◁≡

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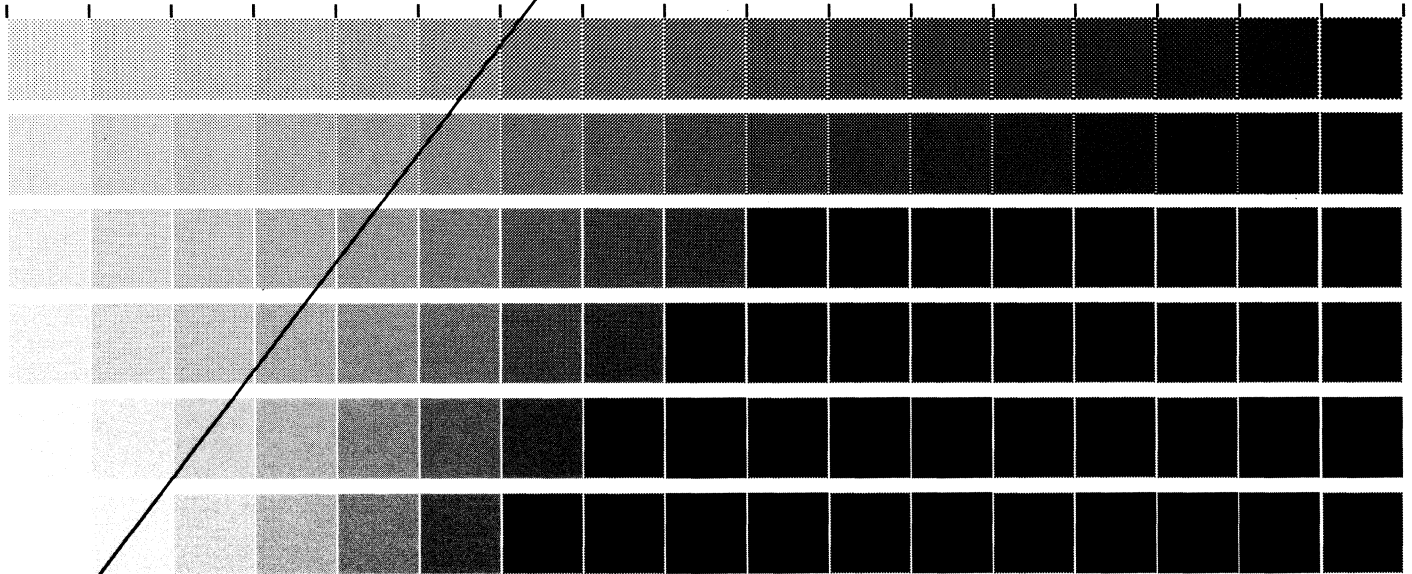
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PRODUCED BY GRAPHIC ARTS RESEARCH CENTER

RIT ALPHANUMERIC RESOLUTION TEST OBJECT, RT-171

